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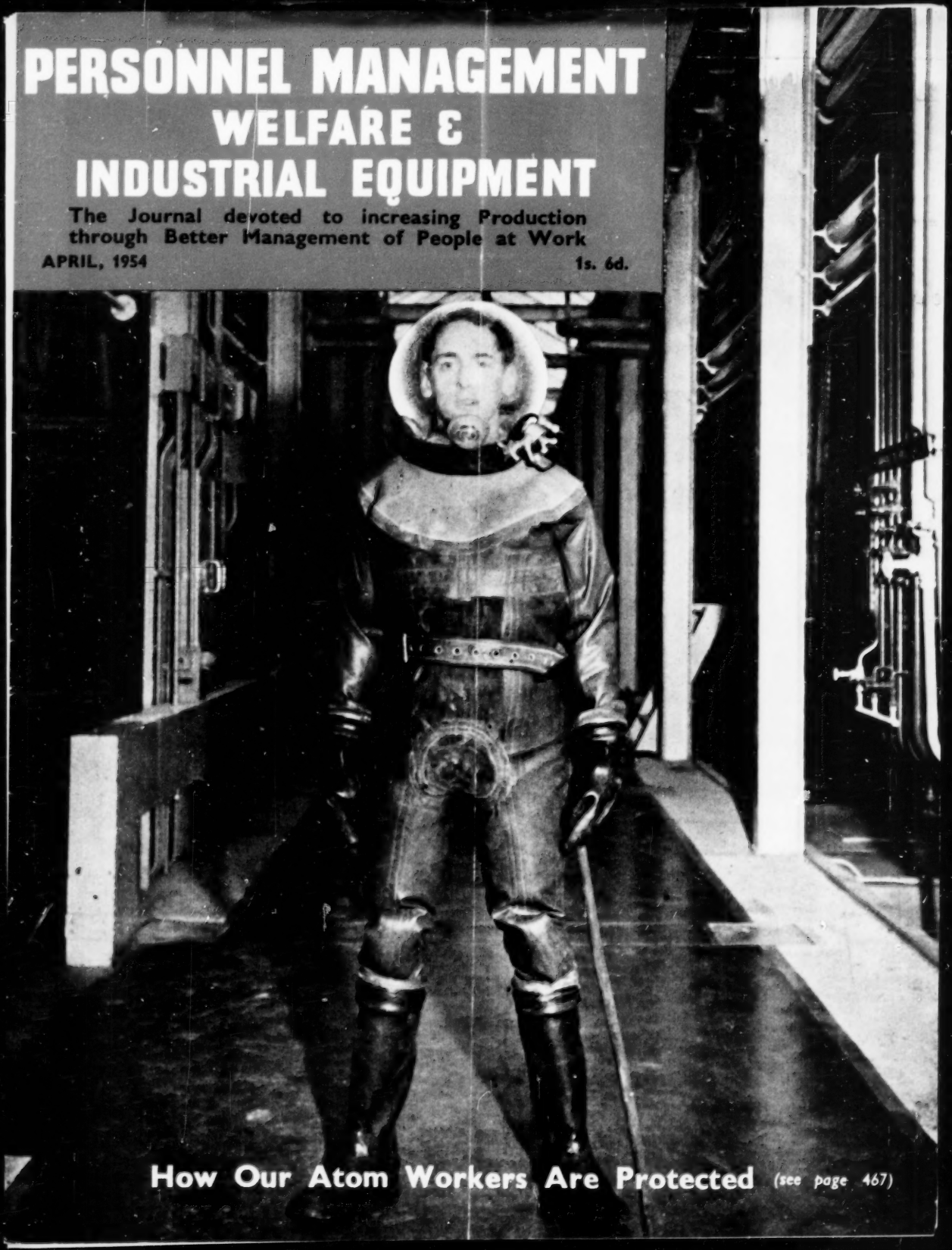

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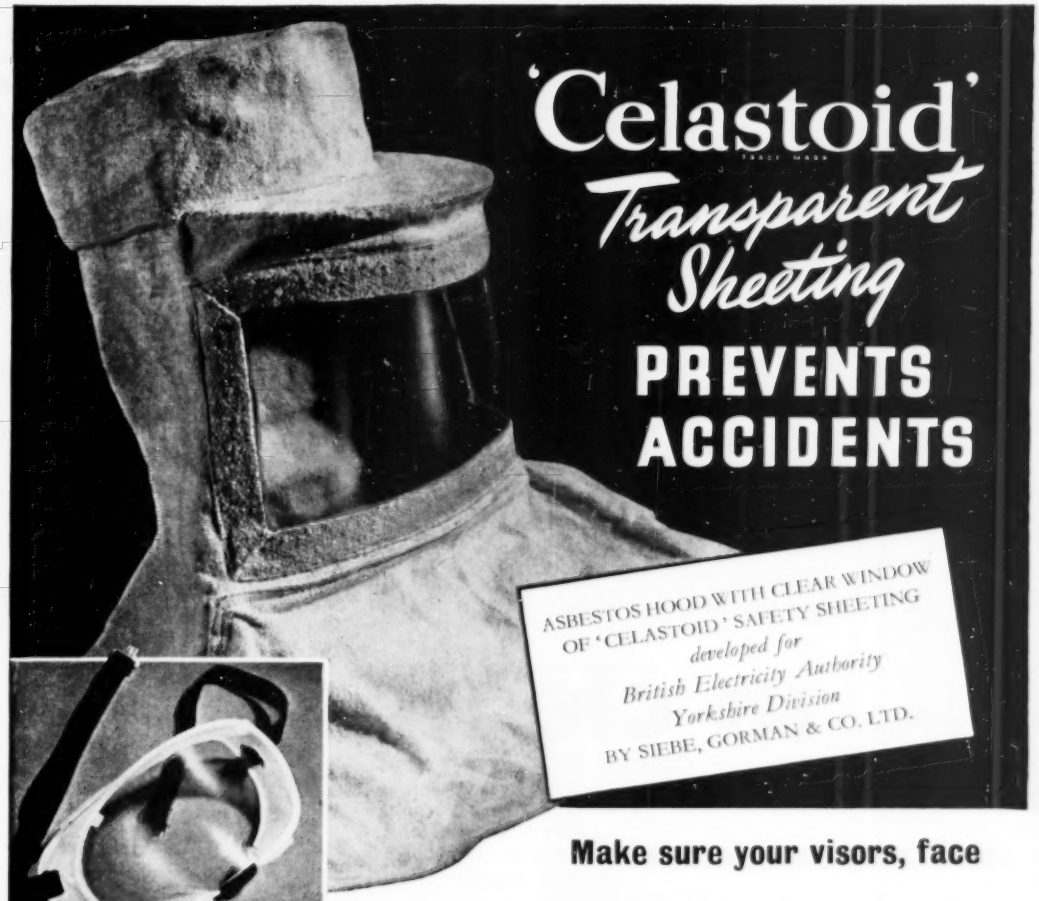

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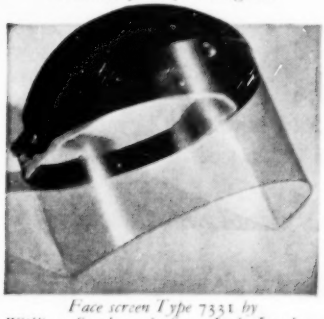

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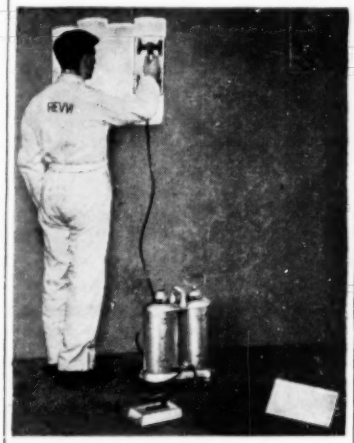

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CONTENTS FOR APRIL 1954

MANAGEMENT OF PERSONNEL

Can Intelligence Be Gauged At The Interview ? ... *DISCUSSION LEADER* 474

A Five-Point Programme For Good Industrial Relations *JOHN GRINDROD* 470

The First Personnel Manager ... ... *RICHARD FARLEY* 475

Small Firms' Conference 477

INDUSTRIAL EQUIPMENT AND MANAGEMENT

Equipment That Raises Output 487

Canteen ★ Clothing ★ Heating ★ Efficiency Aids ★ Safety

WELFARE, TRAINING AND HEALTH

Raising Foremanship Standards—4

How The National Coal Board Trains Its Deputies ... *PAUL NUGAT* 478

Where Welfare Includes Art Classes 480

SAFETY AND ACCIDENT PREVENTION AND CIVIL DEFENCE

How Britain's Atom Workers Are Kept Safe and Sound *ROBERT McKINNON* 467

CANTEENS AND CATERING

New Canteens, No 9.

This Firm Spent £120,000 On A Quality Canteen ... ... *GERALD WARD* 483

NEWS AND READERS' SERVICE

Current Personnel and Production Practice Digest 472

Personnel News Bulletin 481

Canteen Advice Bureau 482

Summary of Official Publications 491

April Management Diary 492

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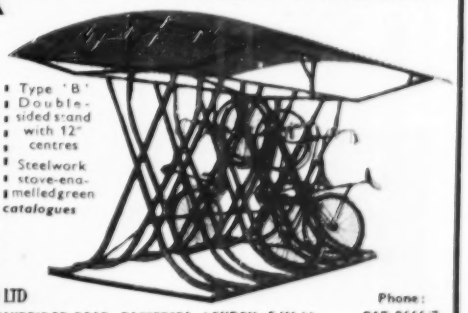

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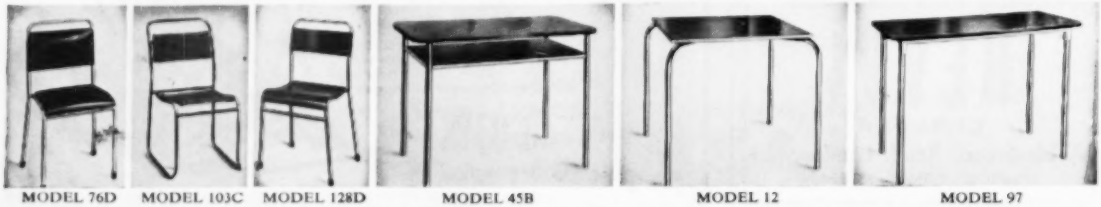

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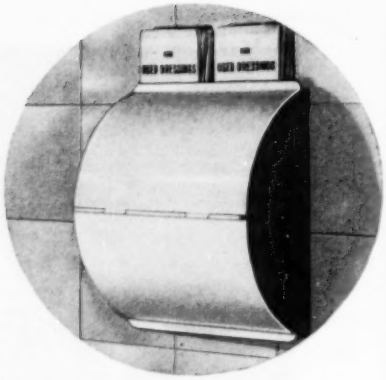

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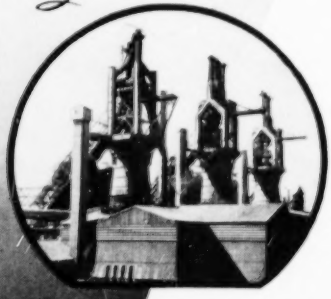

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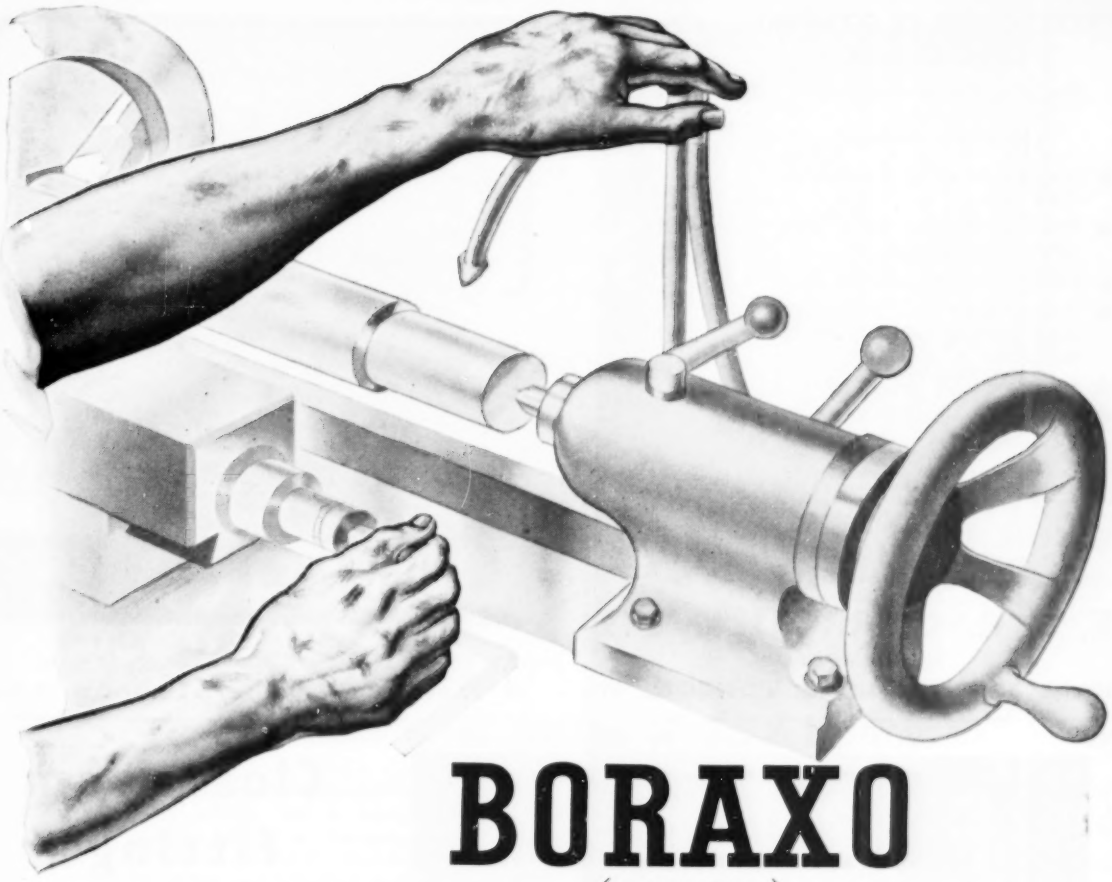

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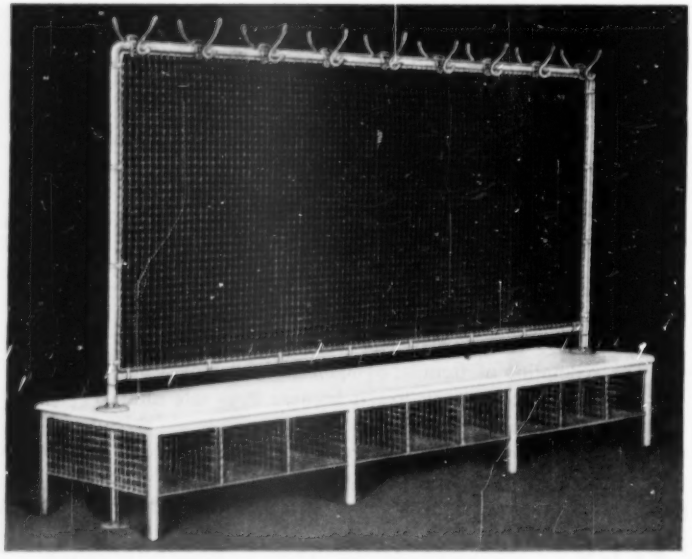

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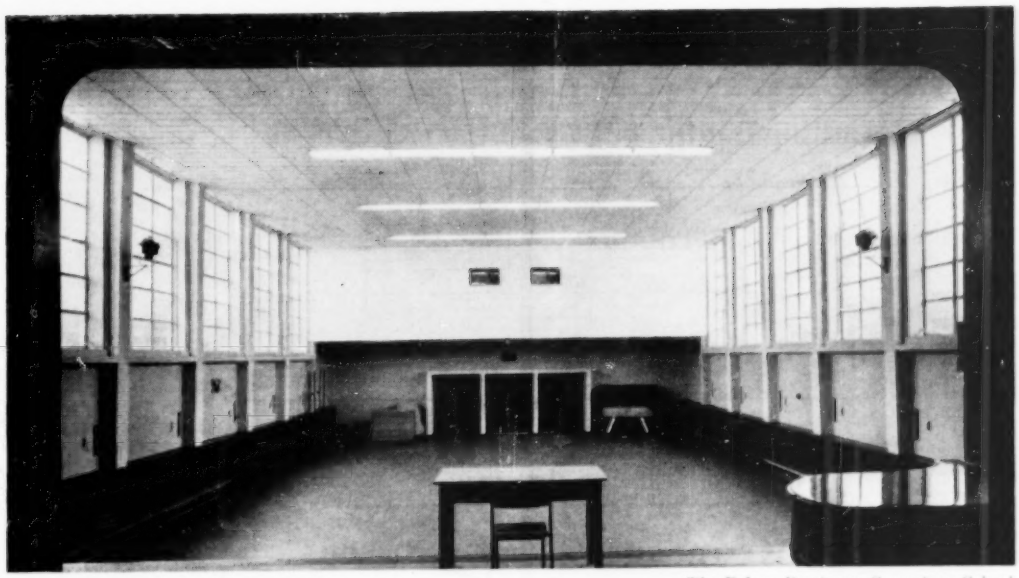

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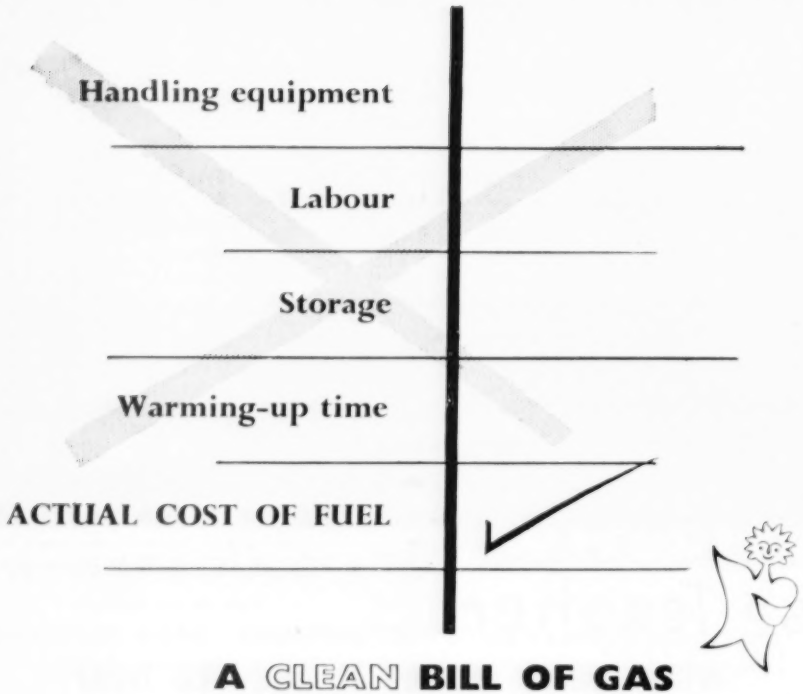

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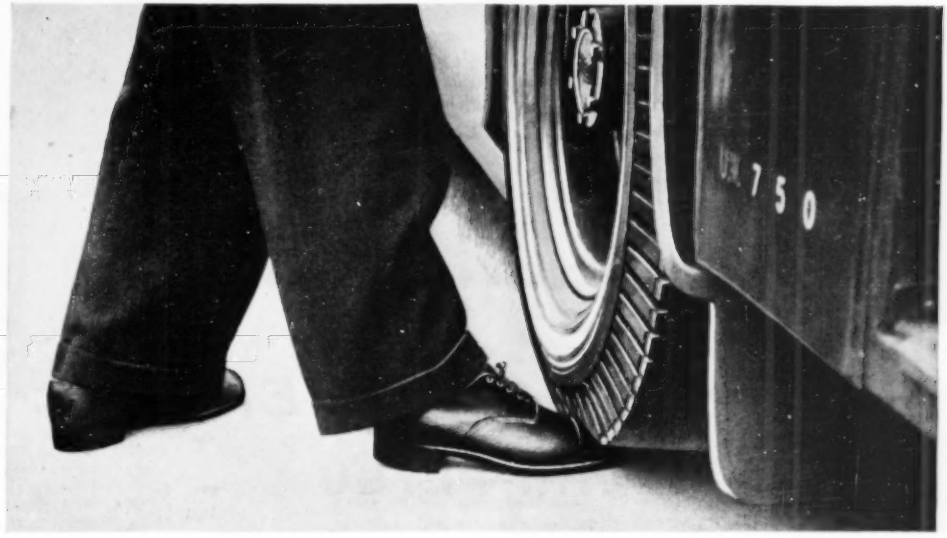

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Before leaving "process areas" or laboratories, workers must check that they are free from contamination. The machine seen here, known as a "hands-and-feet monitor," gives them the answer

A NEW INDUSTRY THAT TAKES NO CHANCES

How Britain's Atom Workers are Kept Safe and Sound

By ROBERT McKINNON

With the establishment of our atomic factories came health and safety problems of a kind met with in no other industry. The five senses cannot detect radiation or radioactive dust but these can cause serious injury, even death. Yet as a result of the safety measures taken, the atom worker is said to run less risk than the average industrial operative. We feature here how the danger is controlled both as regards the men and women in the "process areas" and the civilians living in the neighbourhood. It is a story of unremitting vigilance coupled with scientific ingenuity, indeed of a new safety technology.

"The worker in an atomic energy plant is safer from the occupational hazard characteristic of his job than the worker in any other industry — he is far less likely to be injured than is the average industrial worker facing the current and normal hazards of his trade. The rules laid down . . . to ensure protection against radiation are such that a worker who obeys them has no chance of coming to harm in thirty or forty years of work—the highest standard ever set by an industry. Danger certainly exists but it can be, and is, brought under complete control."

THIS claim, contained in the recent H.M.S.O. publication, *Britain's Atomic Factories*, may sound exaggerated to the point of complacence, but it is no more than a just assessment of the facts. If he obeys the rules and conditions governing safety (and these are many and strict), the man who works among the atoms does in fact run less risk than workers in other industries.

First, however, a word about our atom factories. Built up within seven years, they constitute the nucleus of an industry already worth scores of millions of pounds and employing thousands of workers mainly in areas where hitherto there has been a marked lack of work. The atomic factories are three in number —at Springfields (Lancs), Windscale Works, near Sellafield (Cumberland) and Capenhurst (Cheshire)—all controlled by the industry's headquarters at Risley (Lancs).

The atomic production programme began in 1946 when twelve men and women moved into their new offices at Risley. Within a few weeks, the Production Division, as they were called, had embarked on the immense task of constructing factories of a complexity and size hitherto unknown in this country, involving processes new to engineering and materials which could be highly dangerous to workers. Yet in each case the necessary factories were built within three or four weeks of the target dates, though each took several years to build. The Springfields plant produces uranium, the basic atom fuel. Here, the uranium metal is dissolved from the powdered ore and cast for use in atom piles. At Windscale Works, plutonium is produced from uranium in two atom piles and afterwards separated from uranium in a gigantic chemical plant. At Capenhurst, the third factory built by Risley, natural uranium, which consists of a mixture of two types (or isotypes) of the metal, is converted to a gas and passed through thousands of filters so fine that they can distinguish between atoms of almost identical weight. This is to separate the fissile type of uranium from the non-fissile type.

So far as health and safety are concerned, the general effects of working on processes involving radioactive materials have been known for some 50 years. Such processes are accompanied by the emission of radiations—alpha, beta, gamma and neutron—which are capable of ionising any material through which they pass. The cells of living tissues are affected by ionisation in several ways: they may be paralysed and then recover from this paralysis partially or completely, or they may even "over-recover"—that is, recover and multiply with unnatural rapidity; they may multiply erractically or in a malignant form; there may be aberrations in the chromosomes in the cell; or they may die rapidly.

Which effect will be produced depends principally on the tissue concerned and on the dose of radiation. Effects are not necessarily bad—except where the dose is un-

The rubber gloves of workers are monitored daily. Rubber does not insulate the wearer from radioactivity but it does prevent active dust particles from remaining on the hands or beneath the fingernails where normal washing might not remove all of it.

controlled, *and worse still unobserved*. Then, a large dose attacking the body can cause serious injury, even death.

At this juncture, it should be stressed that radioactivity exists widely in nature, in the air, the sea, the soil, even in the tissues of animals and men. Everyone is exposed to these natural radiations but the dose is too small to cause any ill-effects. On the other hand, external radiations generated by machines, like atom piles, X-ray tubes, or in chemical plant using radioactive materials, may be very intense over the immediate area and a source of real danger to those working in the vicinity.

Much more dangerous, however, is radiation from a source *inside the victim*. Such a source develops when a piece of radioactive material gets into the system by absorption through the skin or a cut, by absorption through the gut by swallowing it, or through the lungs by breathing "contaminated" air. In such cases the active material may become concentrated in one part of the body and is in the most intimate possible contact with the cells of the body.

It should be emphasised, moreover, that radioactive hazards are more insidious than others because the human body does not react to such radiations as directly as it does to other stimuli. A man cannot hear, or see or smell radioactivity. If he puts his finger on a piece of metal that is "hot" in the radioactive sense, he will not jerk it away instinctively as he would if it were hot in the ordinary sense of the word. The five human senses have therefore to be replaced by instruments able to detect this elusive invisible poison. And this has given rise to a new profession, that of the factory health physicist (whose functions are described later in this article). Lastly, it should also be stressed that the emergence of our atomic industries has increased a millionfold the radioactive operations with which pre-war radiologists were concerned.

The above is an outline (of necessity brief) of the health problem confronting the Risley planners when they set about creating Britain's atomic industry. Success of the entire venture was ineradicably tied up with the safety of the workers concerned. Despite engineering ingenuity which has wrought miracles in remote control mechanism at the factories, men and women workers must enter the "active areas" at regular intervals.

First, then, it was necessary to find out as much as possible about the effects and behaviour of radiations from various materials, to determine what exposures could be allowed in the case of each type from external sources and also what maximum amounts of the various types of radioisotopes could be regarded as safe when ingested. To decide these "tolerance doses," as they are called, involved much research but a set, believed to involve a risk which is small compared with the other hazards of life, has now been agreed internationally.

In effect, the tolerance level allows an atomic energy factory worker to receive about as much radiation in any week as he would during an X-ray examination of his chest.

Having decided the tolerance doses, the problem was and remains how to ensure that all workers are prevented from exceeding the specified amounts. In this, the safety experts were helped considerably by the fact that radiation sources obey one of the commonest laws of nature, the inverse square law, which states that the intensity of radiation decreases as the inverse square of the

8 FEATURES IN SAFE ATOMIC WORKING

(1) *The behaviour and effects of different radiations are studied and the "tolerance dose" of each computed.*

(2) *Ionising radiations — alpha, beta, gamma and neutron — are contained by concrete and concrete/metal shielding.*

(3) *Active substances are kept in liquid form wherever possible, thus avoiding the danger of ingesting radioactive dust through the lungs.*

(4) *Everyone entering a "process area" must don clean protective clothing from head to feet.*

(5) *Ventilation plants suck away radioactive particles in the air, and, before discharge, all solid matter is removed from the air by electro-static filters.*

(6) *Monitor instruments test all workers and strategic points in the factory for radioactive contamination.*

(7) *Regular surveys are also made of the land, sea and atmosphere in the vicinity of the factories.*

(8) *A special medical unit, trained in dealing with radiation hazards, operates in each factory.*

distance separating the body from the source—for example, the intensity at two feet from the source is only one-fourth, and at three feet one-ninth, of the intensity at one foot. Damage from radiation depends also upon the duration of the exposure.

Protection by distance or time, however, is by no means enough nor, for that matter, is it always practicable. Thus, a number of positive, practical measures are absolutely essential and these come under five main classifications as follows: shielding (including protective clothing); ventilation; radiation monitoring and health physics; health surveys outside the factory; and the medical side of protection.

Back in Whitehaven harbour, the crew of the **Mary Munro III**, a motor fishing vessel used for making radiation surveys at sea level, unload their catch. It consists of mud and seaweed and bottled dust specimens sucked from the air off the Cumberland coast. These are tested by scientists to ensure that the twin atomic piles at Windscale Works are not becoming dangerous. Our front cover shows a member of an emergency decontamination squad.

Shielding

This is not simply a matter of putting up a concrete wall and hoping for the best, as the thickness and nature of the shield depends on the strength and nature of the radiation. Concrete, however, is widely used, for not only is it cheap, efficient and an excellent building material, but also, being composed of light atoms, makes a better shielding material against neutrons than does lead or iron. Gamma rays, on the other hand, are stopped most easily by heavy metals such as lead, but lead is very expensive so in practice it is cheaper and just as effective to shield the source with concrete loaded with some iron.

Protective clothing also plays a vital part in shielding measures. Everyone entering a process area, whether management, operatives or visiting scientists, must put on white overalls, white linen caps, white rubber boots and gauntlet gloves. Apart from the safety of the workers this helps to preserve the purity of the product. Wherever there is exposed process material, buildings as well as plant are cleaned every shift; at the Springfields plant, for instance, where uranium is produced, it is a common though incongruous spectacle to see men cleaning the factory floor with ordinary domestic vacuum cleaners.

Another factor in shielding is the policy of keeping active substances in liquid form—solutions, slurries, and sludges—wherever possible. Dry active substances which may be blown about as dust in the air increases the danger of ingestion through the lungs. Where dry substances have to be used, such operations are conducted where possible in an enclosed chamber by remote control. But if there is no other course open—for example in an emergency decontamination operation—workers wear respirators and special protective clothing.

Ventilation

This is one of the most important safety features of our atomic industry, particularly where dry material is worked. Chemical processes are usually carried out in closed vessels, but wherever there is the slightest chance of vapour, fumes or dust escaping, ventilating hoods and ducts are installed and the air sucked away by powerful fans. And before the exhausted air from the factory is discharged, all solid matter is removed by means of electro-static filters. The filtered air is then discharged up a high stack so that any active material will have been thoroughly diluted before it reaches ground level. Other precautions against the ingestion of radioactive dust include the prohibition of eating or smoking in active areas and insistence on careful washing before leaving such an area.

Again, radiation apart, as in any chemical works, there is the danger of chemical poisoning—uranium, for example, is a highly-poisonous substance—and also the usual hazards from machines, furnaces and other plant. These likewise call for carefully-planned preventive measures.

Health Physics and Monitoring

At this point the health physicist (referred to earlier) enters the safety picture. Because the five senses cannot detect radiation, the job of sniffing it out is left to instruments. And with these the health physicist carries out radiation surveys of the factory, its personnel and surroundings during which he measures the intensity of radiation at various points.

Such surveys fall into three broad classes: (1) measuring the total dose of radiation a worker receives during his total working hours to check with the tolerance dose. These are made with instruments known as personal monitors; (2) measuring radiation at strategic points in the factory to determine whether it is safe to work at these points; (3) most tricky of all, measuring to determine whether or not active material has been deposited on workers' hands or clothes, on the floors, walls or ceilings, on instruments or equipment, and whether it has escaped into the atmosphere. The amount involved in this type of survey is invariably extremely minute and very sensitive instruments, called contamination monitors, must be used to find them.

The health physics department is also responsible for decontaminating plant and equipment and also workers' clothes for which it runs a special laundry. It also deals with emergency decontamination jobs such as when a highly-active liquid or gas is spilled. If the "radioactive spill" is a large one, the operator who does the cleaning has to wear a helmet, drawing his air from a compressed-air supply, and a frogman's rubber suit to protect against splashing by active liquid.

Outside Surveys

While people outside the factory are of course quite safe from direct radiation, radioactive contamination on the other hand is not so easily confined. It is thus very important to ensure that none of the material discharged from the pile stacks or into the sea by pipe line results

(*Continued on page* 478)

A Five-Point Programme for Good Industrial Relations

By JOHN GRINDROD

The Personnel Division of the Consolidated Mining and Smelting Company of Canada Ltd. operates in five separate departments—Labour, Staff, Welfare and Safety, Hygiene, and Employee Records and Research. The firm has found this division of function a most efficient means of maintaining good relations with its 8,600-strong labour force. The author, a Canadian journalist, tells here how the policy works in practice.

WITH some 8,600 men and women on its pay-roll, the Consolidated Mining and Smelting Co. of Canada Ltd. (*Cominco*), pays special attention to its industrial relations. This is dealt with by a Personnel Division which has grown progressively since its inception as the Employment Department in 1928. Even prior to this date the company took an active interest in personnel matters, though there was no separate department to deal with this side of the firm's many activities.

Integrating mining, metallurgical and chemical and fertiliser industries, *Cominco* operates mainly in British Columbia where it owns mines at a number of points, chief among them being the famous Sullivan Mine at Kimberley. In this province, it has also an ore concentrator at Chapman Camp, metallurgical, chemical and fertiliser plants at Trail and Kimberley, and a number of hydro-electrical stations on the River Kootenay. Outside British Columbia it has a fertiliser plant near Calgary, gold and other mines in N.W.T. and phosphate rock mines in Montana, U.S.A. Today, *Cominco* produces about ten per cent of the world's lead and zinc, half of Canada's silver, quantities of other important metals and over half-a-million tons of chemical fertilisers each year. A number of expansion projects are also under way.

Of all the men and women employed by *Cominco*, 21 per cent are skilled workers in the mines or shops, 33 per cent are semi-skilled and 27 per cent unskilled. The remaining 19 per cent is made up of 4 per cent technical and professional staff, 5 per cent employed in clerical and accountancy work, 3 per cent stenographers and 7 per cent foremen or supervisors of one kind or another.

As personnel management work developed at *Cominco*, the Employment Department was divided into sections for dealing with varying branches of its activities. In 1937, it became the Industrial Relations Department, and in 1946, the Personnel Division. As such, it acts as the co-ordinating agent in the field of human relations throughout all the operations of the company, serving both employees and management.

Women clerks at work in the Employee Records Department. A modern filing system enables them to look up any employee's record in a few seconds.

The Personnel Division

Included in the duties of the Personnel Division are the hiring, placing, training, promotion and transfer of employees; job evaluation and wage studies; hours and conditions of labour; apprentice training; labour relations and collective bargaining; the promotion of safety, industrial hygiene and first-aid; employees' housing and recreation; group assurance, health insurance and pensions. With headquarters established at Trail, B.C., the Division is split into four main departments, for ease of working. The departments are named Labour, Staff, Welfare and Safety, and Hygiene. In addition there is one section responsible for employee records and another whose function is research and the compilation of statistics in the personnel field.

In the various works and plants of the company matters affecting the Personnel Division are handled through local division staff members acting as representatives of the Division.

The Labour and Staff Departments work in parallel, one dealing with matters concerning the day-wage or

Cominco's underground school for new miners at Kimberley, British Columbia. Other courses, of up to four and a half years, are offered to young entrants in the mechanical and building trades.

hourly-paid employees, the other with the salaried employees. They are responsible for providing a sufficient number of employees of the right categories. They interview, select and place applicants, preference being given to sons and daughters of present employees, other things being equal. This has had the effect of encouraging the family tradition and of building up a strong community feeling. All transfers and changes, whether instigated by the management or employees, are also effected by these departments.

Apprenticeship training is another responsibility of the Personnel Division. Four-and-a-half-year courses in the mechanical and building trades are offered to young entrants. During this time, at Kimberley, the apprentice spends four hours each week in an apprentice school under competent technical supervision, while, at Trail, theoretical work is taken through the local high school. Whenever possible apprentices are absorbed by the company into their own trades at the end of their training.

Joint Production Committees have been operating at *Cominco* since 1942, when the slogan B 4 P (Boost for Production) was chosen as a symbol of the drive for greater production and efficiency and has become the popular title for the suggestion system operating throughout the works. Under this system no fewer than 10,000 suggestions were received at Trail alone during the first five years of its existence. Rewards varying from $5 to $750, according to the value of the suggestion, are paid by the company.

The Industrial Hygiene section of the Safety and Hygiene Department includes the services of a medical doctor who examines new employees. Another of the section's duties is to investigate and correct any conditions which might be injurious to employees. This work, of course, applies particularly to the health problems of the metallurgical and chemical industries.

Safety Practice

Promoting safety consciousness among employees and implementing safety measures in mine or workshop is the work of the Safety and Hygiene Department. Under its care, calendar days lost on account of accidents per thousand shifts worked at the Trail plant have been reduced from 21.0 in 1917 to about 5.0. The study and practice of first-aid is encouraged and a large number of employees are members of the St. John Ambulance Association. Full-time first-aid attendants and registered nurses are on duty at all times for the treatment of sick or injured workers. Joint management-union safety and industrial hygiene committees meet regularly and periodically inspect each department of the works.

Insurance, pensions, medical and hospital arrangements, sickness and accident insurance and housing are the main pre-occupations of the Welfare Department. All employees are covered by group insurance to the extent of $500 three months after joining the firm. This is increased by $100 for each additional six months' service with a maximum of $1,500. The cost of this assurance is borne by the company, but, under the same policy, each employee subscribes to an additional $1,000 cover at a low premium rate. Total and permanent disability clauses are included in the policy. Comprehensive health insurance (medical and hospital arrangements, and sickness and accident insurance for non-occupational illness and accidents) is also provided. Occupational sickness or accidents are subject to regulations applying under the Workmen's Compensation Act of the province in which the worker is employed.

In order to encourage employees to own their houses the company (through its Welfare Department and in conjunction with the Pension Fund Society) makes available housing loans under certain approved plans. Repayment of principal and interest is usually spread over eight to fifteen years. A company building inspector supervises the construction of houses to ensure that they are built according to specification.

Some 600 former employees are now in receipt of pensions wholly paid by *Cominco's* non-contributory plan. Normal retirement age is 65. Payment of a pension is dependent on retirement age and years of service, the amount being based on the earnings of the last ten years and service.

THIS PERSONNEL PLAN:—

1. Reduces labour turnover and absenteeism.
2. Ensures efficiency through good training facilities.
3. Stimulates workers to take a real interest in their jobs, hence
4. Has resulted in higher output, and
5. Has cut labour costs.

How Is Your Time Taken Up?

THE average personnel manager spends 60 per cent. of his time in his own department, 35 per cent. in the plant or in other offices, and 5 per cent. outside the plant, according to a survey conducted by J. W. Vanden Bosch, secretary of the Cleveland (United States) Industrial Relations Association, among a group of personnel and industrial relations people in the Cleveland area.

These findings indicate that the average personnel man is likely to divide his time as follows in the course of a typical week. Personnel transactions (hires, separations, transfers, etc.), 18 per cent.; union matters (formal or informal), 12 per cent.; personnel department operations (reports, records, correspondence, etc.), 11 per cent.; employee counselling (personal and job matters), 8 per cent.

Employee activities (recreation, mutual benefits, etc.), account for 6 per cent.; training, 6 per cent.; cafeteria, plant protection, dispensary, etc., 4 per cent.; wage and salary administration, 4 per cent. Safety accounts for 3 per cent. of the personnel man's time; forward planning personnel programme (reading, research, conferring with executives, etc.), 12 per cent.; promoting and activating the personnel programme (preparing material, selling supervision, etc.), 11 per cent.; other work, 5 per cent. **(Personnel Journal.)**

A New Paternalism

AN enterprising solution to the problem of working mothers with school-age children has been found by the Dundee firm of jute spinners, James Scott and Sons. They give the children breakfast, deliver them back and give them tea. The children are waiting at the works when their mothers come out at 5.30 p.m. At first sight this seems a tremendous responsibility for a firm to undertake, but if there is a shortage of women workers, it may be very much worthwhile. Moreover, a business which has already set up canteen facilities to provide beverages and lunches for its employees may not find the additional organisation attached to feeding school-age children, morning and evening, so very burdensome. **(Business, 3/54.)**

Allergies

OFFICE workers sometimes get skin allergy from things they touch or handle—and it may be difficult to pin down the culprit. Writing in the *Journal of the American Medical Association*, Dr. George E. Morris tells of a man who suffered from a skin rash for eleven years before it was discovered that he was allergic to rubber bands. Then he developed blisters from a green rubber desk pad. The skin cleared when the pad was removed. He got new rashes when the office was fitted with green leatherette chairs. Finally, he acquired a different chair and is now free of trouble. In another case, a girl clerk was allergic to the green paint on pencils, and a stenographer to liquid soap. Others were sensitive to carbon paper, glue, or typewriter ribbons. **(The Management Review, 12/53.)**

Rheumatism Research

HOW far rheumatism causes absenteeism in industry was the subject of a recent survey conducted by the National Coal Board. Absenteeism caused by the incidence of rheumatism results in annual losses totalling £15 million, the survey reveals. Loss of time from this ailment, it is found, affects not only ordinary workers and craftsmen but managers and executives.

A comparatively new body—the British Rheumatic Association— has evolved an efficient way of tackling this problem on behalf of industry based on the special provision of hostels. These will be run by a separate organisation, known as B.R.A. Homes Ltd., which has been established for the diagnosis and treatment of serious cases of rheumatism in its early stages. The first of these hostels has now been opened at Bracken Hill House, The Woods, Northwood, Middlesex. Here, patients can be diagnosed and treated under the National Health Service at Mount Vernon Hospital, the nearby modern rheumatic and rehabilitation centre.

Works Medical Officers or Advisors can obtain further particulars from the British Rheumatic Association, 11 Beaumont Street, London, W.1.

Our Telephones

ALTHOUGH Britain's telephone system ranks second largest in the the world, it is not thereby second best to the American one, which is eight times as big. This is one major conclusion reached by the British study team of Post Office engineers, which has recently returned from a tour of the United States.

In both countries about 80 per cent. of the telephones are automatic and some of the exchanges inspected in America were thirty years old.

In one particular connection, Britain could take a lesson from American practice, namely, in regard to publicity. In the United States all members of the staff are educated in the aims and policies of the telephone business—the American service is operated by more than 5,000 independent companies—and continuous publicity is dispensed on the basis that telephone business is news. The British team consider that all forms of publicity that will help to

A VERSATILE "ACCOUNTANT"

A section of LEO, the electronic wages clerk installed recently by London caterers, **J. Lyons and Co. Ltd.** LEO, on whose "mind" are some 5,000 valves, does a payroll for 1,700 employees both individually and collectively in less than an hour, and invoicing and cost accounting in a fraction of the normal time.

raise productivity should be intensified by the British Post Office.

Male telephone workers occupy much the same place in the American national industrial wage structure as in the United Kingdom, but one difference is in the procedure for fixing wages. In the case of the former there is a lack of goodwill between management and trade unions, very different from the manner in which collective bargaining is conducted in the British Post Office.

Swedish Supervisors

THE *Swedish Institute for Training of Supervisors* and the *Swedish Employers' Association* have evolved a new scheme for training supervisors. It provides for a period of training lasting two to five years according to the initial qualifications of candidates.

Experts of the Institute assist management to select from their staff suitable candidates for supervisory training and for promotion by the following methods: (1) Selection of possible candidates through close co-operation and planned interviews with foremen, other supervisors and the unions; (2) psychological tests, interviews and leaderless discussions for the screening of candidates; (3) systematic rotation of candidates on selected jobs; (4) final selection on the basis of the opinions received throughout the screening procedure; and (5) follow-up of selected candidates both during training and later on in their work as supervisors. **(Asset,** 1/54.)

'Homely' Welcome

HOW the firm of H. T. H. Peck Ltd., the Leicester hosiery manufacturers, endeavour to make the new factory girl feel "at home" was described by Mr. Keith Gayton, assistant personnel officer, when he addressed a recent meeting of the Leicester Association of Social Workers.

Mr. Gayton explained that no longer is the new girl sent to her department immediately on arrival. Instead she hears a talk about the firm's aims and objects, and its products. She is told when she will be paid, and the meanings of the various figures on her pay packet are fully explained to her. After a briefing on the facilities and amenities, she is taken on a tour of the works so that she can grasp the whole picture before settling down to her job.

HOOVER LTD., of Perivale, Middlesex, have recently carried out a series of experiments with the object of devising safety glasses which employees would willingly wear. Spectacles, fitted with *Triplex* safety glass, have been made to resemble ordinary spectacles as closely as possible. It is reported that employees who previously refused to wear safety glasses are now asking for these new spectacles.

Engineers Wanted

BASED on experience gained from the Technical and Scientific Register, the Ministry of Labour have made a review of the current demands for scientists and engineers, and of recent trends in the demand for these men. The result of this survey shows that in most categories demands rose to a peak in the first half of 1952, falling rather sharply in the second part of that year. During 1953, however, demand remained steady and, in some cases, again rose slowly. Generally, the demand for most kinds of scientist and engineer is still strong, but employers are more selective than they were eighteen months ago.

Competition for the well qualified graduate and for experienced men between twenty-five and thirty-five is as keen as ever, but newly qualified graduates below the standard of Second Class honours are less readily placed than in early 1952.

For Better Output

OF fifty-eight reports prepared by productivity teams after visits to the United States, forty-five gave "the extensive use of mechanical aids" as one of the reasons for the high level productivity attained in that country and forty-three gave "Appreciation of work-people of the need for higher productivity," as another. It is possible that these two factors furnished the main explanation for the lag between British and American output.

From The House Magazines . . . . . .

Underground Catering

THE cream distemper, red-tiled floor and concealed lighting of the new canteen at Billingham might belong to any modern canteen. Only by the rough-hewn walls and the miners' helmets on the men's heads can you tell that this canteen is 800 ft. underground in the anhydrite mine.

One of the galleries in a disused working has been used to make this room—some 18 ft. in width and about three times that in length. The room is on two levels, the upper one, equipped with chairs and tables which is reached by a short flight of steps, and the lower level where the men can wash the things they use for meals at sinks along one wall. The whole project was planned by the mine engineering staff and designed by the chief engineer's department, work having begun three years ago. **(I.C.I. Magazine,** 2/54.)

Industrial N.C.O.s

A NEW category, known as the "Senior Staff," has been created by the management. This is not another form of long service award, but a tribute to a body of people to whom we are all indebted for the good work they carry out year by year—men who do not work in the limelight of publicity, but without whose efforts it would be impossible for our organisation to function efficiently.

They may be likened to that backbone of the British Army, the N.C.O.'s to whom the rank and file look for guidance, and to whom the officers are often glad to turn for advice before making decisions. Some of the "Senior Staff" are old in years and others not so old. All, however, deserve this recognition of service loyally rendered, together with the privileges attaching to their new status. **(News and Views—***W. P. Butterfield Ltd.*, Winter, 1954.)

Paper Economy

WE could present a tremendous amount of statistical information to convey to those interested in figures what an immense item stationery is in our daily work. But we hasten to point out that, subject to the needs of efficiency, the desire is to see how we can *reduce* consumption to a minimum. There are no laurels to be gained from impressive figures in this field. **(Team Spirit,** *John Laing and Son Ltd.*)

New Ticket System

BY our new system of booking lunches we hope to reduce waste of food, and to ensure a fair distribution of the most popular dishes which, because of the food situation, may be in short supply. The cashier will issue tickets during the morning break on request. There will be different coloured tickets, each colour corresponding to one of the dishes on the menu. Everyone requiring a lunch on the day in question must collect a ticket from the cashier before 11 o'clock. At lunch time this ticket will be handed over the counter and the appropriate meal issued for it. The cashier will then be paid for the meal in the normal way. **(News Sheet,** *Vitamins Ltd.*, 19/2/54.)

Staggered Payments

ALTOGETHER more than 3,000 people are employed in the factory and offices at Warrington, and with such large numbers we find it convenient to have three pay-days in each week, the girls and engineers being paid on Wednesdays, male workers on Thursdays and the under twenty-one clerical staff on Fridays—a spread of purchasing power for which the local tradespeople shower blessings upon us. **(Lobol Magazine,** 1/2/54.)

Can Intelligence Be Gauged at the Interview?

This month DISCUSSION LEADER deals with one of the most controversial of personnel management topics. Is it possible to form an accurate opinion of a person's mental ability after, say, thirty minutes of questioning? DISCUSSION LEADER cites a case history and suggests that an intelligence test be included in the regular selection procedure for supervisory jobs.

AMONG the lists of unpopular traits published last month, it was interesting to find that you all included some mannerism of speech and almost all referred to hands or finger nails (dirty, nicotine-stained or highly coloured). The speech mannerisms you disliked included affected, monotonous, precise and colloquial speech and talking with a cigarette in your mouth.

Among the personality traits mentioned, boasting in some form or other was disliked most. Is this perhaps because the Briton is taught from the cradle on, both by precept and by example, that boasting is just not done? A small boy was describing how two boys in his form, older than the rest, threw their weight about and were not very popular. "But I have noticed," he continued scornfully, "that when Harris gets really low marks he starts boasting about his ancestors." Oddly enough it is the opposite of this trait which often makes (or used to make) us unpopular with foreigners. They dislike, for instance, being beaten 6-0 at tennis by an Englishman who murmurs deprecatingly, before the game starts, "I'm a bit of a rabbit you know, but I'll try to give you a bit of a knock-up." However, it looks as though, if we want to blow our own trumpet in this country, we have to choose more subtle ways of doing it than the words of the American musical, "I can do anything better than you can."

I also want to deal with two problems about which you have written to me in connection with interviewing. Judging from the letters I keep receiving, a lot of you are interested in being able to put people at their ease during an interview. One north-country man says, "I have worked in London for many years, but when I interview a fellow north-country man I find we are soon getting on famously if I slip back into the vernacular. The reverse would be true if I used this accent with a southerner."

This is one more example of the skill we have to use if we want to "break the ice." An approach which melts one person will freeze another. Similarly, a personnel officer once told me that women he interviewed for part-time work at his firm often brought small children with them to the employment interview. His method of putting Mum at ease, was to say something like, "Hullo, what's your name?" to the child. There are no simple rules for acquiring this skill. It must depend on the natural and friendly manner of the interviewer and on his knowledge of the interests of the person being interviewed.

A SUPERVISOR'S ERROR

Misled by Appearances

DO you remember how another aspect of the employment interview interested a supervisor last month? He asked if we thought it possible to judge a person's intelligence in a 30-minute interview? He goes on to say:

"A recent experience has brought this problem to the forefront of my mind. I engaged a girl to help me with my clerical work, look after my records, run my errands and generally be useful. She appeared at the interview, smartly dressed and she seemed pleasant and eager to please in every way. She had had some clerical experience. I felt she was very suitable for my job and I engaged her. It was not until she started work that I saw her, so to speak, in action, that I realised her intelligence must be very low. She was always anxious to please, but she went about her work in a very muddled way. She forgot things and needed instructions on every little point. In the end I had to discharge her. How did I come to make such a mistake?"

I think we will all be ready to sympathise with this correspondent. I expect we can all quote similar instances of failure to size up someone's intelligence correctly, particularly until we get the chance of seeing them, as our correspondent says, in action. Part of our difficulties may lie in not knowing what we are looking for. What is intelligence? Intelligence is the mental ability, or the capacity of the mind, to grasp significant and complex relationships of one thing to another and of the part to the whole. An intelligent person for example can abstract general principles from a situation and he can then apply these principles to new situations. In short intelligence is the capacity to put two and two together and make not five or three but four. The girl our correspondent tells us about obviously had not got this ability. She could do a job if she was told what to do. She could remember a routine job on a regular day each week. She could not grasp the significant relationship of the job to the management meeting which might require her to do it on a different day of the week.

PRIVATE INTERESTS

Do they indicate Brains

IT is difficult to discover this kind of capacity at an interview. A thorough exploration of past achievement offers the most likely clue. What is his school record like? Did he, for example, leave school at 14 from the form below the top one? What kind of work has he done since school? Has he achieved success at it? How deep and wide is the range of his interests? Many progressive managements today, particularly when selecting supervisors and managers, supplement this kind of information by including an intelligence test in their regular selection procedure. During the last war such tests helped the Services to sort men not only into jobs which needed above average intelligence

(*Continued on page* 490)

CAN YOU 'PICK BRAINS' ?

What are your views on the interview as a means of assessing mental ability? The Editor invites readers' opinions on this important subject raised by DISCUSSION LEADER and will pay one guinea for each letter published.

The First Personnel Manager

by **RICHARD FARLEY**

Robert Owen (1771-1856), despite the Utopian fantasies of his old age, was a man well in advance of his time. He was the first to grasp the necessity for humane personnel management in any modern sense of the term. A master cotton manufacturer at 20, he became by 45 a model employer, factory reformer and founder of an enlightened system of community life at New Lanark. His ideas on factory practice and education are today commonplace but were then revolutionary.

Picture by Courtesy of The Batchworth Press Ltd.

ENGLAND 1771: the ever-mounting slag heaps on rural property denote the Industrial Revolution in full swing. Factories operate an 18-hour day, farm workers flock to the new factories in the north; Manchester is leading the world in cotton. Whilst in the capital, the Court of George III retains its air of rustic tranquillity, the distant roaring of furnaces heralds the age of men and machines, the greatest revolution in human society since the invention of the alphabet.

In this year a poor Welsh saddler was pleased to record the fact that his wife had been safely delivered of a son whom they christened Robert Owen. The boy had few prospects: he left school at nine, as was customary in those days, and became apprenticed to a draper. Later, he became a shop assistant in London and then in Manchester where he first made headway in the vortex of Britain's industrial adolescence.

Owen saved and borrowed until he was able to establish himself in a small business of his own. He could see that the future lay in machines. In Manchester the innovations of Crompton and Hargreaves were completely changing the cotton industry and Owen was determined to get in on the ground floor. As he was only 18 at the time his insight was remarkable.

At 20, Owen was the manager of one of the largest spinning mills in Lancashire at a salary of £25 a month, a fabulous amount in 1791. He had a staff of 500 workers and a reputation for turning out a good product at a low price. He was on his way. Shortly afterwards Owen was in complete control of the New Lanark spinning mill which at the time was the finest in Scotland.

So far the Owen story is orthodox. The industrial history of the last 150 years abounds with the conventional success story of the poor boy who fought towards executive eminence, but Owen was very different. It soon became apparent that he had schemes in mind other than those pertaining to immediate profit. **The age of the machine was a new phenomenon, it was the chief concern of the early industrialists, yet Owen knew instinctively that every age is the age of men and that somehow he had to harmonise the conflicting interests of the men and machines of his epoch into an integrated industrial pattern.**

At New Lanark he was something of a despot, but being a despot helped his plans considerably. He examined the deplorable conditions of the factory operatives and saw clearly that his productivity could be greatly increased if he raised wages, erected workers dwellings, provided a medical service and encouraged education. Being no idle theorist he began to build up his New Lanark mill into a model village which in time became the show-piece of early 19th-century industrialism.

First, Owen raised wages and

reduced the working hours. His rivals said he was mad. Next, he provided clothes and houses for his employees at low rates. His critics were even more convinced of his lunacy. Then he raised the minimum age for child labour and built recreation rooms for the workers. By this time he was not expected to be in business very long. Yet he prospered. He controlled the sale of alcohol in the model village and opened a school for children and adults and still managed to pay out £7,000 in wages during a trade slump.

Despite all pessimistic predictions, his productivity and profits exceeded many of his most cut-throat competitors. In 1813 his views were regarded with acute suspicion: today his reforms appear to be elementary and obvious. His basic principle was that one cannot expect the best work from a person who is ill, half-starved, badly housed and weary of diurnal insecurity. Such a view was in direct contradiction of the then current Ricardian "Iron Law of Wages" which held that the worker's economic wage was the same as his bare subsistence level. Owen's views also met with opposition from the followers of the gloomy prophet Malthus, who maintained that low wages and disease by eliminating the unfit and the surplus members of the community, created a higher standard living for the fortunate survivors. Owen noted a "fatigue curve"; that is, that after a period of work an employee's efficiency drops until a suitable rest period interrupts the productive process. **He saw that higher wages (within reason) and properly organised social activities made for better output; above all he held that, once a man has a decent home and family, he had something to work for and that marital responsibilities need not hinder good work, but actually assist effective effort.**

Owen had very definite views on productivity. His approach was social and psychological. Apart from a system of scientific cost accounting and production control, he had various incentive schemes. His favourite was his "Silent Monitor." Attached to each machine near the operative was a rectangular piece of wood with four colours painted on it, white, blue, black and yellow. The output and behaviour of the worker was assessed by the foreman in four grades and, according to the degree of efficiency attained, the "Silent Monitor" indicated by its colour the efforts of the employee.

Output Symbols

Owen entered these records in a large ledger which acted as a ready-reference: bonus schemes were affected by the predominance of too many "blacks." (It has been pointed out by Margaret Cole* that this system was used in the first Soviet Five Year Plan, but in this case types of animals were used. Thus the worker's prowess was illustrated either by pictures of snails, tortoises and other less energetic animals or by hares and ants. This pictorial symbolisation of economic endeavour has its roots in the deep-seated human desire for approval and approbation and in the inherent dislike of being the butt of publicised disapproval.)

As a personnel officer, Owen proved himself outstanding. He graded his employees, tested them, gave them probationary training and advertised for the best workers. So popular was his factory that hopeful workers would walk from the far corners of Britain to settle in New Lanark. In 1820 factory welfare was almost non-existent, legislation on the subject being deemed an interference with the rights of the individual, and municipal responsibility was nil. The "despot" of New Lanark had other ideas. He employed street cleaners, medical advisers, and even had a system of domestic inspection to ensure proper hygienic standards.

Obviously Owen did not quite know when to stop, as supervision can be carried to extremes, and not all his schemes were successful. For instance he later attempted to found a collectivist colony called "New Harmony" in the United States which proved an abysmal failure. On the other hand, his "Report to the County of Lanark," which embodied his main proposals for factory and social reform, went unheeded and his writings on what we should term today "Industrial Welfare and Management" were unread for years. Finally, his opposition to the Church made him a social outcast.

Crank or genius? Today the term "crank" is used less of him but it must be admitted that Owen hatched many hare-brained schemes. On the other hand, he was one of those exceptional people who was not only a product of his times but one who had the social perspective to see where current trends were leading. In the early 19th century he stood a lone figure, an employer who had come up the hard way, a manager with humanitarian principles and, in fact, the first industrialist to combine the three functions of personnel manager, welfare officer and production engineer. **He could see that the world needed machines and that men had to operate them, but that man himself was something more than a mere mechanism.**

Margaret Cole "Robert Owen of New Lanark."

Ahead of His Time

ROBERT OWEN—

1. Realised that the machine must always take second place to man.
2. Built houses for his workers, gave them a medical service, and encouraged education.
3. Raised wages, reduced hours, and prospered.
4. Introduced suitable rest periods to increase efficiency.
5. Grasped that better pay plus improved social conditions meant better output.
6. Employed street cleaners and instituted a system of domestic inspection to ensure hygiene among his workers.

FACTORY AND HOME

ISSUED recently by the Institute of Personnel Management, *Married Women in Industry* (by E. M. Harris) indicates the value of part-time employment as a means of reconciling industry's needs and the married woman's desire to work and care for her home at the same time.

The publication points out that married women now make up 43 per cent. of the total working female population and number more than 3,000,000. Many companies realise that the older woman especially is a reliable and conscientious employee and that the advantages of maturity often outweigh those of youth.

On the other hand, the pamphlet shows that companies often find it difficult to reconcile shorter hours with production needs and if, as in a period of trade recession, the urgency of retaining every worker diminishes they are less likely to make changes in organisation, and special welfare arrangements.

SMALL FIRMS MEET AT ASHORNE HILL

Work Study a Key Topic

"THREE reasons why so many small firms have grown badly instead of well," declared E. F. L. Brech, management consultant of Urwick, Orr and Partners Ltd., at the second annual small firms conference at Ashorne Hill from March 5 to March 7, "are (1) that growth was often unplanned and haphazard, (2) that growth was considered easy, and (3) that too many owner-managers were pre-occupied with growth.

"In the development of the small firm," Mr. Brech continued, "the personal behaviour of the owner-manager is a very vital factor because of the emotional implications in having a staff who have been with him and his business from the beginning." Again, the small firm was not giving enough attention to the systematic training of operatives, and this was something which did not necessarily mean the establishment of a training centre and the appointment of a full-time training officer.

Mr. Brech's paper was one of six presented at the conference which was organised by the British Institute of Management in conjunction with the Federation of British Industries, the National Union of Manufacturers (Midland Area) and the Institute of Industrial Administration (Birmingham Branch). Some 170 people attended, a considerable increase over the numbers at the initial conference in 1953.

A Varied Programme

The other papers were as follows: "Bank Rate or Budget?" by J. R. Applebey, chief leader writer of the *Financial Times;* "Work Study" by G. J. P. Moorhead, F. B. Trethewey Ltd., Manchester; "Export Marketing for the Small Firm" by J. Davis, chairman, Suntex Safety Glass Ind. Ltd.; "Standardised Costings over a Wide Range of Products" by H. G. Houghton, managing director, Eng. and Lighting Equipment Co. Ltd., St. Albans; and "The Importance of the Small Firm" by W. Robson Brown, M.P.

Although, therefore, the programme covered a wide range of problems and topics to do with the small firm, those of personnel management emerged by implication and not as a specific subject. For instance, in his talk on work study, Mr. Moorhead stressed the need to study human reaction at every stage of its introduction. Even the most hostile groups, however, could be won over if management exercised patience and was at pains to explain just what advantages would accrue to the operatives themselves through its application. In his experience the question was not "Can the small firm afford work study?" but "Can the small firm afford to be without work study?" He listed the advantages as follows:

(1) Higher productivity and decreased costs; (2) More contented labour force; (3) Decrease in overtime worked; (4) Higher operatives' earnings; (5) Accurate labour and labour costs control; (6) A firm basis for standard costings, and (7) Valuable training ground for management.

"But," he added, "Work Study is no substitute for good management."

Some interesting figures were given by Mr. Robson Brown in the first part of his address. There were over 150,000 firms in the United Kingdom employing less than ten people, he pointed out, and in his opinion the maximum number of people a firm could employ and still be described as "small" was 500. By this yardstick, it was significant that in the U.S.A. (the land of the big corporations) the small firm labour force was two-thirds of the total, while over here it was only a half.

I.P.M. BRANCH CONFER AT BOURNEMOUTH

THE London and South Eastern Regional Conference of the Institute of Personnel Management was held in Bournemouth from March 5 to March 7. It was a well-attended event and those present had a full opportunity for discussion. Chairman of the Conference, Mr. A. Smith, said in his summing-up remarks, that the organisers had not planned a set theme. The remarks of the principal speakers created their own central theme, however, for most present. Implicit or explicit in nearly all that was said, was the recognition that the need for the personnel function of management in British industry and the need for managers to develop their social skills will continue to grow in the future. Sir Walter Puckey, president of the Institute of Production Engineers, set the pattern when he outlined the many problems facing British industry today and showed how the personnel officer was needed to help in the solution of many of them.

The theme was further developed by Mr. D. Cleghorn Thomson, when he spoke of the need for managements to develop social skills. He outlined new developments by the British Electricity Authority in the training field, designed to help managers to develop these skills.

A practical session conducted by Mrs. M. Brown and Mrs. E. Sidney of the Regent Street Polytechnic, in which they enacted a series of interviews dealing with selection, complaints and discipline, emphasised the complex skills which anyone conducting an interview must possess. The development of industry as a social system and the need to respect and understand the individual was the underlying theme of Sir Richard Lloyd Roberts' closing address.

Management Bookshelf

"An Introduction to the Study of Industrial Relations" by J. Henry Richardson (Professor of Industrial Relations in the University of Leeds). George Allen and Unwin Ltd., 30s.

THIS volume may well become one of the basic textbooks for management studies. Professor Richardson writes clearly, fluently, objectively, from the basis of a knowledge and experience that transcends the merely academic, with the avowed hope that it will prove useful to university students and others interested in human aspects of industrial management and in the regulation of working conditions by collective agreement and statutory methods. There can be no doubt that his book could be read with profit by everyone.

Professor Richardson gives a comprehensive survey which embraces day-to-day relations in the factory, collective bargaining between employers and trade unions and describes the part played by the State. Also included is the work of personnel officers, selection of workpeople, training for skilled jobs and management, joint consultation and the use of incentive methods of wage payment. Wages are discussed with special reference to the living wage, the capacity of industry to pay, equal pay for equal work, and the possibility of a national wage policy. On the living wage, as throughout his work, he emphasises the need for a personal sense of responsibility and effort. He says:

"In estimating the amount of a living wage it cannot be assumed that the money will be used with maximum efficiency. But although some allowance must be made, the living wage cannot safeguard from privation those who are thriftless, wasteful and incompetent in the management of their incomes."

Other chapters deal with social security and with international aspects of industrial relations, with family allowances, hours of work and relations in the nationalised industries—indeed, with almost every socio/economic problem upon which interest has focused since World War II. Professor Richardson's conclusion, too, is noteworthy for its accuracy and absence of any woolly idealism. It re-emphasises the importance of individual effort.

"Britain," he points out, "is one of that small minority of nations whose people are better fed, better housed, better educated, have more leisure and a broader basis of social security than nine-tenths of the rest of the world. These advantages are largely a heritage

(*Continued on page* 490)

BRITAIN'S ATOM WORKERS

(*Continued from page 469*)

in concentrations exceeding the tolerance levels laid down by the Medical Research Councils. This is another of the health physics department's responsibilities and, long before production began, surveys were made throughout the surrounding country and sea to determine the amount of natural activity and how it varied from time to time.

Since production began, regular surveys have been made to determine the effect the discharge is having on plant and underwater life and from the information collected, it is possible to control the discharge so that no harm is done either to flora or fauna. The surveys would also show if any accident, such as the rupturing of a cartridge in a pile, was causing excessive amounts of activity. In addition to these surveys, samples of soil roots, vegetation, sea-water, sand, seaweed, shellfish and so forth are collected and brought back to the laboratories where they are examined for radioactivity.

The Medical Service

The Division of Atomic Energy set up its medical service in 1947. It was decided to go all out for preventive medicine from the beginning instead of setting up services after the hazards had taken their toll as in the case of the older industries. A principal medical officer was appointed who set up in each factory a complete medical unit, specially trained in dealing with radiation hazards, consisting of doctors, nurses, radiographer, laboratory assistants and other auxiliaries. It is primarily an industrial medical service with much in common with those in other industries.

Every new entrant is given a thorough medical examination which is repeated at regular intervals throughout his employment in the factory, and special attention is paid to the study of sickness and to the personal problems of employees. And there is, of course, very close consultation with the health physics department.

The result of all the measures described is that the injury rate in Britain's atomic industries is less than half that in most comparable industries. In fact, where the worker obeys the safety regulations to the letter, there is, literally, hardly an atom of risk.

Raising Foremanship Standards—4

How the National Coal Board Trains its Deputies

By PAUL NUGAT

The nationalised industries, too, attach great importance to supervisor training. And in the most basic of these—coal-mining—a man must pass a practical examination at least before he can become a deputy (foreman.) Well over 20,000 deputies have now taken the prescribed five-day course which is organised on a local basis, and a second series of courses, complementary to the first, is now being introduced.

WITH the Coal Mines (Officials and Inspections) General Regulations, 1951, has come the first co-ordinated training scheme for deputies and potential deputies throughout the divisions of the National Coal Board. The regulations provide that, unless a man holds a certificate of competency qualifying him to act as a colliery manager or under-manager, he must pass a practical and oral examination—and, in some cases, a written one as well—before becoming a deputy.

Appropriate courses have, as a result, been instituted at technical colleges and collieries. Theoretical instruction at the technical colleges covers subjects such as mining technology, mining science, mining machinery and legislation. This takes the form of courses which run to about 150-180 hours over a period of six months. Practical training is normally carried out at the collieries, although training centres are sometimes used. Here, instruction is given by colliery managers, under managers and practising deputies, the period of training varying from less than 100 hours to more than 150 hours. In some divisions management training is included in the curriculum, generally as part of the technical college course.

Prior to the 1951 legislation, deputies—there were some 23,000 in the industry—were appointed on the personal recommendation of the colliery managers, who nominated such men as they considered suitable for supervisory posts. But the rapid increase in mechanisation coupled with the growing importance of human relations have brought with them the need for higher supervisory standards in the industry.

Early in 1952 a series of five-day courses for existing deputies was introduced on an area basis in all divisions. The courses, which were held in 48 centres in the coalfields, catered for some 600 deputies each week and were devised as the result of an experimental course held at Tunbridge Wells in February of that year. They had a three-fold objective: (a) to help the deputy to appreciate his new status and responsibilities; (b) to give him some training by discussion group methods in management — with particular regard to the human aspect; and (c) to emphasise his responsibility for safety. The basis of the training was to be in small discussion groups of 12 to 15 men.

Training The Instructors

As a first step, divisions were required to select men with practical mining experience, each of whom would take charge of the training course in his own area. These men —40 in all—attended a two-weeks' national course in the early Spring of 1952. This was designed to train them in organising the five-day local courses, and also to discuss briefs and training aids for the various lecturers at such courses, including the content and presentation

of human relations part of the syllabus.

The course directors were taken through a model five-day course and, by means of discussion groups, decisions were reached on the outlines of briefs which could be adopted in local courses, special attention being given to the human relations part of the syllabus and method of presentation.

By the end of June, 1953, some 20,000 deputies had attended five-day local courses, most of these having been organised by the course director concerned under the general supervision of the Area Officer for education and training. Specialised lectures were given and discussions led by specialists from within the area. The subjects fell broadly into three sections: Technical, Health and Safety and Human Relations.

The Coal Board's Deputy Training Plan

1. Consists, primarily, of five-day local courses on a group discussion basis of twelve to fifteen men.
2. Falls broadly into three sections: health and safety, technical, and human relations.
3. Provides also for advanced instruction at technical colleges in the form of courses of about 150 to 180 hours over six months.
4. Is the first uniform plan of its nature to be introduced into the mining industry.
5. Has met with a good response and has led to a demand for further training.

The following is a typical syllabus with the number of sessions indicated in parenthesis. TECHNICAL. Modern Mining Techniques (2); Roof Control and Support (2); Gas Emission and Ventilation (1); and the Use of Explosives (1). HEALTH AND SAFETY. Fire Prevention (1); Dust Suppression (1); Safety Devices (including electrical precautions) (2); Maintenance of Safety Equipment (1); and Other Health Precautions (1). HUMAN RELATIONS. Leadership in a District (1); Responsibilities of a Deputy as a Member of the Management Team (2); the Organisation of Work in a Deputy's District (1); the Deputy and the Care of his Men (2).

The courses described above embody the first uniform plan of its nature to be introduced in the mining industry, and represent the first concerted attempt to infuse human relations as a subject worthy of study. It is not, however, the sole scheme for training deputies. Certain divisions have instituted their own individual refresher courses, but the only permanent residential course being operated is at Battle Abbey College, in Scotland.

Role Playing Restricted

Up to the present, the general pattern of courses for existing deputies has been to confine the lecturing to speakers representing management and experts, lectures having been generally followed by discussion. The Northumberland coalfield is the only one to have done some work on rôle-playing, the feeling apparently being that, in general, a five-day course is too short for the effective application of this technique.

The reason for not employing speakers from other fields can be attributed to the unique place which coal mining holds in the industrial world. Whilst the N.C.B. are prepared to admit that the experiments of other industries in human relations work have played a large part in stimulating their own activity in this field, the great difference between factory practice and that at the coal face renders comparison very difficult.

Under the 1951 Regulations, men will travel towards their deputy's certificate by what is known as the "Ladder" plan—along one of three main paths. Qualification can be obtained by (a) a Certificate of Competency; (b) a written examination and practical test; and (c) a practical test only. Each of the three routes requires under statutory regulations that the candidate shall produce evidence of a minimum period of underground experience, of having reached the minimum age, of his ability to test for gas, proficiency in first-aid and the possession of sound hearing. The minimum experience and the minimum age differ according to the path chosen.

It is expected that for some time to come men will continue to qualify by taking a short course and the practical test. The new path is intended primarily for the younger man who can take advantage of part-time educational facilities and day-release schemes provided by technical colleges in the coalfields. For the younger man, a three-year course of study will be necessary before he is ready to sit for the examination, whilst due allowance is made in the plan for the older man with practical experience (of at least 25 years) who might have difficulty in undertaking a long course of study.

Although it is difficult to asssess the value of these courses, judging from reports by course directors and others who have taken part in them and from general comment from senior management, they have achieved a high measure of success, and there has been a particularly good response from the students. There is now a demand for a second series of courses, which are to be complementary to the first, and will deal mainly with technical aspects of the deputy's job though not to the exclusion of man-management. This second series is now being organised in the divisions wherever possible. The success of the first series was largely due to the effect of the national course for directors of local courses, and in like manner the second series is being preceded by another—shorter period of training for course directors.

A deputy tests for gas. The safety of his team is one of his main responsibilities and a salient feature of his training.

Where Welfare Includes Art Classes

By VERA BURTT

The Bournville Arts Club, now sixteen years of age, is one of the many facets of the Cadbury welfare organisation. The Club is open to all and its members—directors, foremen, pensioners, clerks—are representative of this well-known industrial family as a whole.

WHEN, in July, 1940, Paul Cadbury opened the fourth exhibition of the Bournville Arts Club he made a plea for the "painter of rotten pictures," expressing his wish that the main function of the club should be to encourage the total beginners and those who found pleasure in drawing and painting as a pastime rather than as a serious pursuit.

Today, Mr. Cadbury may well feel that a good deal of his wish has been fulfilled. Among the many members of the club with whom I spoke recently—drawn from widely different spheres in the factory—I found no-one interested in taking up art as a career, but all of them full of enthusiasm for the pleasure and relaxation that the club provided. As to the "rotten painters," well, I saw no sign of their work, but the chairman, W. E. Cossons, assured me that many had joined the club originally with little or no experience. The finished work, in fact, is a very great tribute to the progress made and the encouragement given.

How It Began

The Bournville Arts Club goes back to 1937, when the idea was put forward by George Monkhouse, now the Chief Employment Officer (Men). An ardent water-colour painter himself, he realised that there was a good deal of talent which might be considerably developed in "idle hours." And so, with Mr. Cadbury representing management, Mr. Cossons as the hon. secretary, and senior members of the Bournville Studio forming the first committee, the Club came into being and held its first exhibition the same year as its formation. One striking fact of this first show of pictures was that almost everyone had chosen pictures different from those found in their daily occupations.

As W. A. Cadbury has always stressed, modern industry has brought more leisure to workers at all levels. Thus, factory workers, clerical staff, directors, managers, foremen and pensioners are but a few of the many different spheres at Bournville from which a club membership of nearly seventy is drawn. In the high standard of art that is maintained on the Cadbury chocolate boxes and labels, we see perhaps a reflection of the increased interest in design generally and the application of artistic talent to the practical needs of an industry.

The Club subscription is only 2s 6d. a year, a token subscription possible through the generosity of Cadbury's, who provide the basic facilities and (through the works council organisation) limited financial assistance. With no overheads to pay, the Club has few expenses, and the fares incurred on special sketching parties and other outdoor activities are covered by the members themselves.

Here, then, is a genuinely "working" club. Once a month, sketches are put up, one at a time, for criticism. Set subjects are also given from time to time, such as "Landscape in Three Colours," "A View from a Window," "Winter Landscape," etc., for fellow members' comments. Talks and lectures form a popular part of the programme and outside artists are sometimes brought in to enliven the proceedings. The club committee is drawn from as many different spheres as possible, so that the organisation is not simply left in the hands of its founders.

"What happens if some members feel they are such 'rotten painters' that they need lessons?" I asked.

"Well," said W. H. Fasham (one of the founder members) "there is always someone in the club ready to give them tuition, and we have many lectures on technique, composition, pattern and similar points that are helpful to beginners." I learnt, too, that art books may be borrowed from the Bournville library so that illuminated lettering, sculpture, carving and other branches of art can be studied.

Some members of the club have won a works council scholarship to the Birmingham College of Art. One such, E. C. Haley, of the Electricians Department, told me how much he had enjoyed winning one of these scholarships which entitled him to two days a week for a year at the Birmingham College. On the wall of his office I noticed a couple of gay pastels—one an extraordinarily good likeness of a girl on the staff and the other a vase of flowers. It was pleasant, indeed, to find art penetrating into the workaday atmosphere of a Department where normally circuit diagrams form the only mural decorations.

The Club boasts this oil-painting by the well-known artist, Paul Redmayne, who is an enthusiastic supporter of its activities.

And what finer advertisement for the club than that two members have pictures in the Royal Academy, Burlington House! George Monkhouse (exhibiting for the second time) shows a water colour of a mountain scene in the French Alps and Mrs. Dorothy Lockwood (wife of the Club Secretary, Dr. H. C. Lockwood) a water colour "Through the Larchwood."

At Bournville, then, a way has been found of encouraging those with a little ability to develop it to its utmost. Results have proved so encouraging that it is hoped many new members will follow Sir Winston Churchill's example and decide to have a crack at it. For art is one activity where age is no barrier.

RoSPA Conference Chairman

SIR GEORGE BARNETT, H.M. Chief Inspector of Factories, is to be the chairman of the 1954 National Industrial Safety Conference to be held at Scarborough from Friday, May 14 to Sunday, May 16, inclusive.

The opening address at the Conference will be given by Sir George Earle, chairman of Associated Portland Cement Manufacturers, Ltd.

M.O.L. Appointment

MR. W. J. NEDEN, C.B., C.B.E., has been appointed Chief Industrial Commissioner, Ministry of Labour and National Service, where he has been Director of Organisation and Establishments since 1948. The former Chief Industrial Commissioner, Mr. H. G. Gee, C.M.G., has returned to duty after a long illness and has taken charge of the Employment Policy Department of the Ministry. Mr. G. J. Nash, C.B., formerly in charge of the Employment Policy Department, has been appointed Director of Organisation and Establishments.

Novel Publicity

THE importance of a works magazine in reaching the families of employees was stressed by Mr. John Maslin, personnel director of Accles and Pollock Ltd., when he spoke recently to the Midlands branch of the British Association of Industrial Editors.

"The factory really is a social unity, and that should be emphasised all the time. It may, in fact, be a good or a bad social unit, but the sense of unity is there either way. People are bound to identify themselves with their social unit based on the works, in the same way that servicemen identify themselves with their regiment, ship or squadron.

His own company thought so strongly on this point, said Mr. Maslin, that in addition to the works magazine they took a weekly space in the local newspaper which was presented as news. Each week that feature contained a short profile, with picture, of an A. and P. employee, and a news item about the works or the people employed there."

Careers Advice

A REVISED booklet on chemical and mining engineering and fuel technology is now available in the "Careers for Men and Women" series issued by the Ministry of Labour and National Service. (*H.M.S.O.* 1s. 6d.)

The new booklet contains separate sections on gas engineering and on oil prospecting and production. All sections give revised information not only about the scope, pre-entry qualifications and training arrangements but also of the opportunities in the various branches of the engineering profession which are discussed.

Course at Cambridge

DESIGNED for managers in industry, a residential course has been arranged by the Board of Extra-Mural Studies of the University of Cambridge and is to be held at Madingley Hall, near Cambridge, from Monday, June 28, to Friday, July 23. The course will throw light on the rôle of the manager and on his personal responsibilities in present-day society, and is intended for persons between the ages of twenty-eight and thirty-five. The inclusive fee for the course is £80 and admissions are limited to twenty-four. Applications, on the prescribed form, should be in the hands of the Secretary, Course for Managers in Industry, Stuart House, Cambridge, not later than Monday, April 5.

IN BRIEF

ACCORDING to the latest index of industrial production prepared by the Central Statistical Office (based on 100 points in 1948), the figure for December, 1953, is estimated provisionally at 120, compared with 132 for the preceding month. Figures for the corresponding months in 1952 were 112 for December and 123 for November. On the basis of the latest available information, the index for January, 1954, is put at an estimated 126-127, compared with 118 for January, 1953.

* * *

Figures released last month by the Ministry of Labour and National Service reveal that the total working population in Great Britain as at the end of January, 1954, was 23,491,000, composed of 15,942,000 men and 7,549,000 women. An analysis of the total number in civil employment (22,283,000) showed that 3,987,000 were employed in basic industries and 8,955,000 in manufacturing.

According to a recent return there are 146,093 men and women now undergoing training in Industrial Civil Defence units, stated the Home Secretary (Sir David Maxwell Fyfe) in reply to a Parliamentary question.

* * *

All employees of the Stork Margarine Works of Bromborough, Cheshire, and Purfleet, Essex, with over thirty-five years' continuous service have been granted an extra week's holiday. The present minimum holiday for any worker is two weeks annually.

PEOPLE

Mr. P. Beynon has been appointed manager of the newly-formed Work Study Department of the Steel, Peech and Tozer branch of the United Steel Companies Ltd. It is expected that some months may elapse before the service comes into operation but Mr. Beynon is now devoting his full time to forming the new Department. He has been succeeded as Spring Shop manager by Mr. E. Houghton.

Dr. H. Graham Andrew has been appointed Company Medical Adviser by T. Wall and Sons Ltd., ice-cream and meat-products manufacturers of London, Manchester and Edinburgh. Dr. Andrew, after a short spell in journalism and public relations, graduated in medicine at the University of Adelaide.

(*Continued on page* 492)

More than 2,500 employees from the firm's London factories and Southern divisional headquarters attended a recent ceremony at the Hammersmith Palais when Mr. Cecil W. Rodd (left), chairman of **T. Wall and Sons Ltd.**, presented gold watches to eighty-five members of the staff on their completion of fifteen years' service with the organisation. In all, ninety-three Wall's employees will receive similar presentations this year.

CANTEEN ADVICE BUREAU

This is a special service run by this journal in the interests of efficient industrial catering. All readers with a canteen problem or query are invited to send these to the editor. They will be answered by L. Banham, A.R.San.I., A.M.H.C.I., an expert in this field, and a selection printed in each issue.

M.P. (Bradford)

Is it necessary to buy a thermometer for use with a fish fryer?

Answer.—Most cooks would be insulted if asked to use a thermometer when frying fish in a deep-fat fryer, yet there are cooks who never do seem to know when fat is hot enough to use and for such people a thermometer would be a prime necessity. To a lesser degree it is also needed by all cooks according to their skill though few would care to admit it. When frying fat is ready for use its temperature is about 400° F. and immediately fish or other food is put into the fat its temperature drops according to the amount put in. Normally the fat level is about half-way up the sides of the pan. The great point to remember is that the temperature level of the fat should not be allowed to fall below 320° F. otherwise fat absorption will take place and greasiness and fat wastage result. It is in the control of this point that a thermometer is invaluable.

S.K. (Nuneaton)

We are advised to encourage our younger members of the cooking staff to attend the City and Guilds Course No. 151, "Cookery for Hotels and Catering Establishments." *From what we have seen of students' exhibition work it would appear that the training would be wasted for the kind of service which is acceptable to us. Is it wise, therefore, to encourage staff to take the training?*

Answer.—There is quite a good deal of latitude given to instructors in the interpretation of the syllabus and much will depend, therefore, on the instructor's background. One thing is certain, the students will be taught the basic principles and fundamental practices correctly wherever the training may be gained. Most instructors demonstrate ways in which the more elaborate dishes can be modified to meet local needs and cost variations.

K.B. (Carlisle)

This is a small canteen where the washing-up process is done by hand. One of the staff complains that the detergent used in the washing-up water has resulted in her getting dermatitis. Can this be true?

Answer.—It may well be true that some persons develop a form of dermatitis after coming in contact with particular types of detergent used in washing-up, but in many cases the condition thought to be dermatitis is but in reality a roughening of the skin. It should always be borne in mind that the dosage recommended for use with any detergent should not be exceeded for this is both unnecessary and extravagant and may ultimately be harmful to the user. Some women regard the degree of foam produced by the detergent as the measure of its efficiency but this is false reasoning. In general, it may be said that the more expensive the detergent the less need be used. Allergic people will always be met with but many of the so-called "dermatitis" cases would not arise if the recommended dosage was adhered to.

J. B. (Nelson)

We have some old plastic plates which are very much stained and some nickel-silver cutlery which seems to stain very easily. In what way can we remedy these defects?

Answer.—In course of time the tiny scratches produced on plastic plates sometimes develop a brown stain. Not all forms of plastic ware respond to the same treatment and for that reason it may be advisable to consult the manufacturer on the best way to overcome this difficulty. A solution of 1 per cent. of sodium hypochlorite or an oxygen bleach like precarbonate or presulphate should prove quite effective.

With regard to the cutlery the causes of staining are numerous but one of the most common though least expected is the delay between washing and drying of the cutlery. It is a sound practice to drop a string net bag containing clean aluminium milk bottle tops into the rinsing water and to ensure that the rinsing water is kept really hot and the cutlery thoroughly dried.

R.L. (Welwyn Garden City)

Is it better to buy fish locally or to buy it from a merchant at a fishing port?

Answer.—The factors which affect the answer are your locality, type of trade and numbers to be served. There is much to be said for the local merchant and in your case I should think it preferable to buy locally for by doing so you will save delay in transit and you will also be able to see the fish before you buy. Some canteens find it to their advantage to make an arrangement with the local trader to have fish filleted and cut up into 6 oz. portions before delivery. The slight extra charge for this service is often more than offset by the saving of time in the kitchen.

J.B.C. (Deptford)

We are assured that it is cheaper and better to make our own baking powder. Can you supply a good recipe?

Answer.—There is certainly a saving to be made by mixing one's own raising agent providing that care is taken to keep to the stated amounts and to mix not more than a week's supply at one time. There are several ways of preparing the mixture:

(a) 8 oz. cream of tartar.
4 ,, bicarbonate of soda.
8 ,, rice flour.

(b) 4 oz. tartaric acid.
4 ,, bicarbonate of soda.
8 ,, rice flour.

(c) 4 oz. cream of tartar.
2 ,, tartaric acid.
4 ,, bicarbonate of soda.
6 ,, rice flour.

Method 1. Mix all the ingredients together and pass through a hair sieve until all the lumps have quite disappeared.

2. Store in an air-tight tin and keep the tin in a cool dry place.

It will be noted that cream of tartar does not readily react in the cold as does tartaric acid and, therefore, produces more reliable results.

'HOW TO COOK BY ELECTRICITY' HANDBOOK

ELECTRIC Commercial Catering Handbook (price 5s.) is the latest of the excellent handbooks published by the British Electrical Development Association, 2 Savoy Hill, London, W.C.2. The book is well illustrated and is written in non-technical language. The scope of the book covers: kitchen planning; types of electrical equipment available; capacities and amount of equipment recommended, and care and maintenance of equipment.

There is, too, a chapter on the consumption of electricity but the difficulties in making running costs comparisons between establishments is stressed. It is to be regretted that this book was not published prior to the Hotel and Catering Exhibition for it contains much useful information that is of value to the would-be purchaser of catering equipment.

Peerless and Ericsson, food machinery manufacturers, of Hendon, N.W.9, are to supply the Hertfordshire County Council Education Authority with all their food preparing equipment for school feeding and canteens during the current year.

NEW CANTEENS No. 9

This Firm Spent £120,000 on a Quality Canteen

By GERALD WARD

Only the best was good enough when Siemen Bros. and Co. Ltd. built a new canteen at a cost of £120,000 for the 8,500 employees at their Woolwich works. The result: about half the workers use the canteen at midday even though well over that number live near enough to go home for lunch.

AN important development in industrial catering was marked by the completion in September last year of an ultra-modern canteen at the Woolwich factory of Siemen Bros. and Co. Ltd. Covering an area of 23,000 square feet, the canteen was built over a period of two years at a cost of approximately £120,000. It stands on the site of old waste ground adjacent to the works and replaces a line of six wooden huts which had hitherto served as the works canteen.

The new canteen layout was devised by the consultants, Oscar Faber and Partners, of St. Albans, and the kitchen equipment supplied by Messrs. Benham and Sons Ltd. The main canteen hall takes the form of an L-shaped formation and is designed to serve the "weekly" staff and works personnel. Here is accommodation for 671 "weekly" staff and 756 works staff. Lunches are served in three shifts: at 12.15, 12.30 and 12.45 p.m. There is, in addition, a dining-room—seating 220—which is used by the administrative staff.

A committee under the chairmanship of the labour manager has been set up to watch over the upkeep of the canteen, and they have recorded with great satisfaction that dining-hall equipment is treated extremely well and that there have been no instances of abuse.

Entry into the kitchen and storage section is secured through the north-east end of the building. Here is located the goods lift, linking the kitchens with the bulk storage rooms in the basement; just by the lift are the vegetable and dry goods stores. Cloakrooms are provided for male and female staff at this end of the building, and these are equipped with lockers and showers. The kitchen itself has non-slip tile flooring and peach tiled walls.

Modern Kitchens

The kitchens are air-conditioned throughout and are equipped with the most up-to-date apparatus. Among the more interesting equipment in the meat and fish section is an automatically-controlled, electrically-operated cold storage cabinet with a total internal storage capacity of 18 stones. The internal temperature is automatically maintained at between 35°-37° F. For pastry preparation, there is a 1½ in. thick hardwood-top bench, measuring 9 ft. long by 2 ft. 4 in. wide. This is fitted with a stainless chrome-steel sink. In addition, there are two mobile pastry cooling racks, each designed to accommodate 15 trays, and two double-deck, gas-heated pastry ovens, each with two independent compartments with mottled-enamelled linings. Each oven has a vent outlet with damper and is heated by two banks of external luminous burners with pilot lights and adjustable thermostat.

For vegetable preparation there is a central preparation unit, fitted with five single-compartment galvanised mild-steel sinks. A 1½ in.-thick, hardwood-top bench, 21 ft. long by 2 ft. 4 in. wide, is to be found in this section, which also houses two "Hobart" Model E6128 floor-type, electrically-driven, potato-peeling machines, with a capacity of 28 lb. per operation, a "Peerless" Model R.C.2 electrically-driven potato-chipping machine, with an output of 25-30 lb. per operation and a "Hobart" floor-type, electric mixing machine. A "Hobart" semi-automatic meat-slicing machine has also been installed.

Five special-finish, steam-jacketed boiling pans, each of 40 gallons capacity, and a special wet-steam oven with two compartments are among the boiling apparatus. An item of special interest is the thermostatically-controlled, gas-heated, deep fat-frying range. This

Built on the site of former waste ground adjacent to the works, the new canteen has replaced a line of six wooden huts.

This Firm Spent £120,000 on a Quality Canteen — (*Continued from previous page*)

The "L" shaped interior. In the background can be seen the manager's office with four-view vision. Two windows command the canteen while the other two overlook the kitchens.

comprises three units in line and measures 9 ft. long by 2 ft. 5½ in. wide and 2 ft. 10½ in. high. A powerful two-bar tubular burner is provided to each pan, and there is also a pilot light of the ladder-type incorporated—both this and the main burner have independent control fitted through the front casing.

Like the kitchens, the serveries are of the latest design. That which serves the works personnel incorporates a steel-topped service counter 84 ft. in length and comprises five steam-heated hot closets, two of which have been fitted with a bain marie. The servery for weekly staff includes a steam-heated, cabinet-type hot closet with six shelves. Here, the service counter extends to 24 ft. The dining-room servery has a service counter 28 ft. in length, incorporating heated and unheated sections.

In the canteens proper the air-conditioning has been so adjusted as to eliminate stale air and exclude the cooking odours from the kitchen. This has been done by directing the pressure of incoming air in such a fashion that it carries from the far side of the canteen back to the kitchen. Heating and ventilation for the building as a whole is drawn from the works boilers which also supply the steam for the pressure cookers in the kitchen.

Modern mechanical ingenuity plays an important part even in the system of waste disposal. Kitchen and table waste is shot via a chute (situated near the entrance to the kitchen). A valve at the bottom of the chute controls the flow of waste into the collector's lorry.

The average cost of a meal in the new canteen is based on a price of 1s. 4d. for the main dish with an additional charge for sweets. And following the invariable practice of the modern canteen, pastries and cakes are "home" baked. About half of the firm's employees make use of the canteen for lunch, which is particularly encouraging in view of the large numbers living near the works who are able to go home for the midday meal. Breakfasts, teas and meals for night shifts are also available, while five tea stations, served by the canteen, supply the works which extend over 40 acres. Mains steam drawn from the boilers in the works is utilised for heating and ventilating and also supplies steam for the steam pressure cookers.

The canteen manager is Mr. W. F. Hammond, and the manageress, Mrs. H. S. Sales, who is one of two supervisors, is in charge of all the female staff. The other supervisor is responsible for the senior staff servery. The total female canteen staff is 42 and comprises: a general cook, two pastry cooks, three full-time girls in the buffet bar, five employed on vegetable preparation and cooking, a fish fryer, 18 girls on three serveries, and 12 girls are drawn from the factory to perform part-time duties as waitresses in the senior staff section of the canteen. There are also seven part-timers and 24 girls who are engaged in making tea and taking it round the factory; some 16 of these help in the canteen during the lunch period. The male staff consists of a confectioner and three chefs. In addition there is a storeman and a kitchen porter.

Catering Records

Canteen Accounts (*Industrial Welfare Society*, 2s.)

This booklet sets out in a simple form the various records required within the canteen itself. It should be of special use to the medium and small canteen where records, although exact and comprehensive, must be easy to understand and take up little time. All that the canteen manager needs to record is covered within the twenty-four pages of this publication.

When first published jointly by the Tea Bureau and the Industrial Welfare Society, *Canteens in Industry* proved of considerable use both to caterers and to teachers of catering subjects. Responsibility for the new edition has now passed completely into the hands of the I.W.S.

NEW TRADE LISTS

Breathing Apparatus and Other Industrial Safety Appliances (Catalogue B.7.). Siebe, Gorman and Co. Ltd.

This is a beautifully produced catalogue with thumb index and lavish illustrations. It lists the company's safety products in ten distinct sections —self-contained breathing apparatus; Smoke Helmets, compressed air line respirators, etc.; gas and dust respirators; resuscitation apparatus; head and eye protection; hand and arm protection; foot and leg protection; body protection; fire appliances and miscellaneous. All classes of safety equipment and the products within these classes are fully described while a general index makes for easy reference. In all, the publication runs to 180 pages.

The *National Master Painter*, official journal of the National Federation of Master Painters and Decorators of England and Wales, has reprinted in its February and March issues the articles by K. R. Gibbins, on "How Colour and Light Help Production" which appeared in the January and February issues of this journal.

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New Industrial Equipment

EXECUTIVES' SURVEY OF AIDS TO INCREASED PRODUCTION

Readers who wish to know the suppliers of any of the products referred to in this section are asked to write to the Editor, quoting the reference number which appears at the end of the paragraph. We are always glad to consider for publication descriptions—preferably accompanied by an illustration suitable for reproduction—of new products.

Canteen

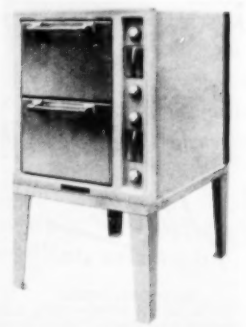
FOR KITCHEN USE

HERE is a new stainless steel topped table in which the polished stainless steel top is backed (for deading purposes) by a layer of felt on a mild steel plate. The stand and grid shelf are of

mild steel stove enamelled, the feet chrome-plated and said to be adjustable within normal limits for levelling purposes. This table is available in any size and may also be fitted with drawers if desired. **(PM/760.)**

NEW PASTRY OVEN

A NEW pastry oven designed as a two or three deck unit is now available. Each deck accommodates one standard 30 in. by 18 in. baking sheet and has top and bottom elements protected by H.R.C. cartridge fuses. These elements are each controlled by



a capillary thermostat which is fitted with a pilot light and has a range of 200° F. to 508° F. The baking chambers are constructed of welded mild steel, finished in vitreous enamel. The one-piece front casting, the cast legs, and the sheet steel body are finished in mottled grey vitreous enamel. Drop-down doors, made of aluminium for lightness, open to a horizontal position. Fuses and pilot lights are accessible from the front, and rear cable entry is provided. The two-oven unit can be connected to either a single phase or two phase three-wire supply, A.C. only. The three-deck unit is suitable for connection to a single phase or three phase four-wire supply, A.C. only. The height of the bottom deck from the floor is 25¾ in., of the second deck 40¼ in. and of the third deck 55¼ in. **(PM/761.)**

ALL-GLASS COFFEE-MAKER

NOW on the market is a single-unit, all-glass coffee-maker with a three pints per infusion capacity and claimed to be capable of a four gallons per hour output. Measuring 8 in. wide by 11½ in. deep by 18 in. in height, the coffee-maker is said to be ideal for the smaller office or boardroom. Thermostatically-controlled, the electric models operate on A.C. or D.C. voltages of 200/220 and 230/250. Models operating on gas or calor gas are also available. The makers also produce a wide range of glass coffee-making equipment for factory and canteen use. **(PM/762.)**

Clothing

NYLON ON THE SHOP FLOOR

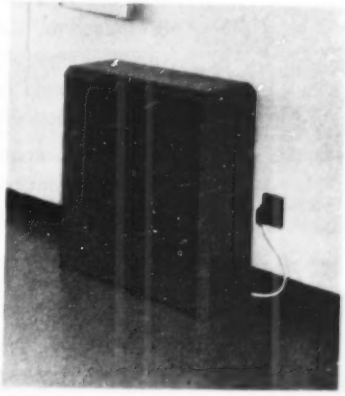
THESE nylon overalls now on the market are said to be smart and economical attire for workers since nylon is claimed to have a high tensile strength and tear resistance, and garments made from it to be hygienic and extremely long-wearing, retaining in full their appearance after years of service and numerous washings. The saving in laundry bills alone is an item not to be overlooked, say the makers, and such savings, coupled with the fact that fewer nylon garments are necessary, make them a more economical investment than some made from orthodox fibres. These garments, designed and tailored for men and women

are fully guaranteed. They are claimed to wash and dry quickly, to require little or no ironing and not to shrink. **(PM/763.)**

Heating

SPACE HEATER

RECENTLY introduced is a new electric space heater which is claimed to form a very efficient and



economical means of solving the problem of heating small and isolated buildings. Capital, installation, and running costs are said to be low. The heater consists of two 750 watt elements in refractory cement and a refractory aggregate, the element spirals being cast into position and kiln dried. Kiln-dried concrete blocks made from a refractory cement form the storage medium. The elements and the concrete blocks are contained in a sheet steel body externally finished in a metallic bronze colour which tones with furniture and average wall decorations. **(PM/764.)**

Efficiency Aids

MOBILE FILING

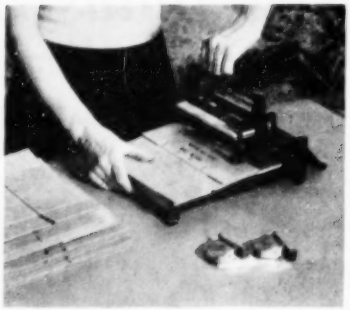
NOW on the market is a new filing cabinet on wheels. This is claimed to be very useful in offices as it can be moved wherever desired. When open, the lids form a shelf at each end of the cabinet on which papers for reference or filing can rest. When not in use the lids drop down unobtrusively at each end of the cabinet, and if desired the lids can be closed to form a flat top. The cabinet is constructed from heavy sheet metal and the trolley is made from squared tubular metal fitted with ball-bearing castors with rubber covered wheels. Available in two sizes the smaller holds twenty-five to fifty folders, and the larger up to 100 folders. **(PM/765.)**

AUTOMATIC RECORDING

THIS tape recorder is claimed to be the first machine issued by the makers to include:—a precision place indicator (a clock device which instantaneously locates the beginning or end of any recording), automatic stop at the end of a reel; magic eye level indicator operating on both recording and playback; a safety catch which prevents any possibility of accidental erasure, and a full 90-minute recording with no change over of spools. It is said to be completely self-contained, and

operated entirely by a set of push-buttons which control every function. It is sensitive enough to record any sound and to reproduce those sounds very clearly, instantly, and as often as is wanted. It weighs 28 lb. **(PM/766.)**

VERSATILE PRINTER



THIS printer is operated by a hand and arm movement, forward and backward, each forward movement making an inked impression and each backward movement re-inking the type or logotype. It uses instantly interchangeable rubber type or logotypes in a ribbed base. For multi-product marking, it can accommodate up to five changeable rubber stamps, dies, dating or numbering machines. It is claimed to print on any cardboard, wood, paper, metal, textile, etc., and anything with a flat surface. **(PM/767.)**

NEW SPRAY GUN

THIS new cement spray gun is claimed to be a faster and more

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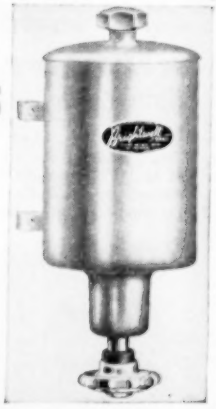

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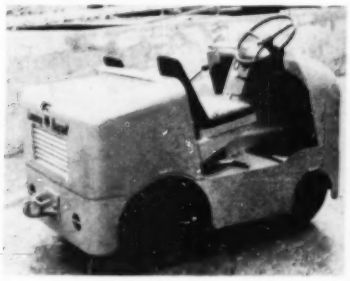
efficient method of mixing concrete or plaster. The dry material is placed in the container on the gun, to which is connected two hoses, both ¼-in. bore, for the purpose of supplying compressed air and water at low pressure to the gun. When the operator pulls the

lever, the compressed air sucks the material from the container in to the air stream, which in turn blows it out of the gun nozzle, and also lets the water into the gun. The water does not come in contact with the material until both have left the gun nozzle. The action of the mechanism is so timed that both the material, and the atomised water in vapour form, leave their nozzles simultaneously. The vapour may be regulated as required. The material (either plaster or concrete) flattens when sprayed, and the amount of trowelling or final finish work is therefore cut to the minimum.

(PM/768.)

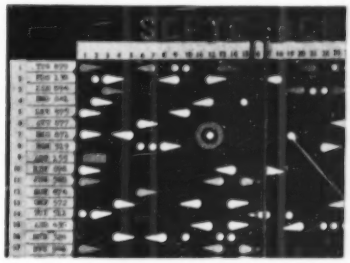
STRONG AND COMPACT



THE engine of this new tractor is mounted above the rear axle with the air intake arranged radially around the centrally disposed clutch housing. After use, the air is discharged through louvres at the back of the tractor. The fitting of the engine at the rear gives added weight over the driving axle, without the necessity for having ballast weights which would result in an increase in the over-all weight of the tractor. The drive is taken from the engine, through a directly coupled gear box, by means of an intermediate reduction transfer box to the differential on the rear axle. It is claimed that this tractor can pull 2,000 lb. and has a load capacity of twenty tons on level ground. A special feature is its size. The over-all dimensions are only 70 in. by 40 in. by 51 in. high, with a wheelbase of 40 in. The turning radius is 58½ in. **(PM/769.)**

EASY STOCK CONTROL

A NEW stock control system has recently been introduced which



To get the man *you need*

Place a timely advertisement in the classified columns of the DAILY HERALD.

Employers all over the country use this medium for finding skilled replacements for every trade and craft. Why? Because of the 5,400,000 readers of this newspaper MORE THAN HALF are skilled workers. The following are typical DAILY HERALD reader groups:—

Manufacturing and Industry	1,050,000
Building and Engineering	580,000
Commerce, Finance and Professions	390,000
Mining and Quarrying	280,000
Transport and Communications	270,000
Distributive Trades	250,000

The swiftest and most economical way to secure new staff is to advertise for them in the classified advertisement columns of the

DAILY HERALD

Rate 15/- per line. Communications should be addressed to Classified Advertisement Manager, "Daily Herald," Acre House, Long Acre, London, W.C.2. Temple Bar 1200, Extensions 454 and 466.

is based on interchangeable signals, letters and numbers, and perforated panel units made from a strong plastic laminated sheeting said to be reinforced on the back with steel sections. This system needs only a limited wall space and can be used for machine loading, progress charts, maintenance schedules, sales charts, graphs, etc., and is claimed to be extensible to any size. The signals are in twelve colours and are covered by a three-year guarantee against breakage. **(PM/770.)**

Safety

FIRE EXTINGUISHER

A NEW type of pressure-operated extinguisher has recently been introduced, in which chlorobromomethane, the new fire-fighting chemical, is held with absorbed carbon dioxide under constant pressure. This is claimed to be the first British-made extinguisher in which use is made of the fire-fighting properties of chlorobromomethane. It is stated to be particularly effective on extra-hazardous risks, such as all electrical equipment like radar, neon signs, television equipment, switchgear, etc., and medium-sized organic solvent fires of all types common in laboratories, garages, etc., as well as on spill fires from modern aeroplanes. **(PM/771.)**

PEELS POTATOES FOR YOU!

Amazing New Machine yours for 17s. down and 8 payments of 17s.

3 lb. potatoes washed and peeled in 60 seconds! "Merry-Go" cuts out drudgery and saves your hands. Just stand machine in sink and attach hose provided to tap; put in unwashed potatoes (carrots, parsnips too if you like) and turn handle for only 1 minute. Nick out eyes—and vegetables are ready for cooking! "Merry-Go" peels thinly, evenly, without any of usual waste. Peels cooking apples too. Made in die-cast aluminium, lovely enamel finish. Rustless, self-cleaning. Awarded Good Housekeeping Seal. Cash price £6 15s. 0d. carr. paid. Quick deliveries. Money refunded if not satisfied.

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Management Bookshelf

(Continued from page 477)

from the past . . . It is not in the nature of crusaders to count the cost but those who believe in the Welfare State and desire to see it firmly established must consider ways and means. Yet not only are there many who put rights before duties and efficient service, but one of the seeming paradoxes of recent British history is that deliberate efforts to evolve a so-called classless society have caused there to be a livelier class-consciousness than before."

"Incentive Management" by James F. Lincoln. Hamish Hamilton Ltd. 15*s.*

THIS book, sub-titled "A New Approach to Human Relationships in Industry and Business," is based on the belief that the actual is limited while the possible is immense. It is written by the president of the Lincoln Electric Co., Cleveland, Ohio, and is the declaration of an American executive's faith in man's ability to overcome the greatest of industrial obstacles and problems, given the proper incentives. In its idealism, in its rejection of the idea of fatalism and its emphasis on "Man Can Do It," Mr. Lincoln's volume expresses a typically American attitude.

In fact, the author is very much aware of the problem facing American industry despite its tremendous achievements. He points out, for example: "A new attitude must be developed in industry. Men must be encouraged to grow. They will then develop efficient machines. All industrialists use mechanical facilities intelligently and to their capacity . . . They have no such programme for eliciting and applying the abilities of the worker."

Incentive Management offers the basis for such a programme on the proposition that management's primary duty is to develop employees' innate abilities. But the author does more than suggest how this can be done: he first persuades us that it can be done, that the worker *will* respond to genuine incentives. One last word—Mr. Lincoln writes so well that his is one of those rare "technical" books that can be read for sheer pleasure.

Employee Remuneration and Incentives issued by the Institute of Cost and Works Accountants (Gee and Co. (Publishers) Ltd., 7*s.* 6*d.*)

PUBLISHED in January of this year, this publication is the result of nation-wide study by the branches of the Institute of Cost and Works Accountants, whose reports were considered by the Research and Technical Committee and discussed at the Institute's National Cost Conference in London last year.

The report deals with the relationship of remuneration and incentives. Remuneration includes wages, salaries, fees and allowances of all in industry from shop floor to board room level; whereas incentives include monetary incentives related to effort, namely bonus schemes, merit rating and non-monetary incentives.

Can You Assess Brains?

(Continued from page 474)

but also into jobs which were very routine and were best done by men of low intelligence. **The Services claim that the use they made of people with a low intelligence was one of the outstanding successes of their personnel selection policy.** Have you any experience of intelligence tests? Do you think they are likely to help managements to pick the best supervisors?

In a future article I want to deal with some problems about age in relation to promotion and employment. Can our women readers start the ball rolling? What do you think of the latest version of the "too old at 40" cry? An American airline company has just announced that it will discharge all its stewardesses at the age of 32. Commenting on this decision, the union of the airline stewardesses deplored the implication that "When a woman reaches the age of 32 she becomes unattractive, querulous, anti-social and commutes to her job on a broom."

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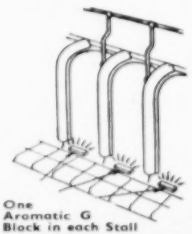

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Summary of Official Publications

READERS' GUIDE TO ACTS, STATUTORY ORDERS, NEW RULINGS AND AWARDS CONCERNING INDUSTRY AND PERSONNEL

STATUTORY INSTRUMENTS

No. 117. The National Insurance (Unemployment and Sickness Benefit) Amendment Regulations, 1954. Dated February 2, 1954, made by the National Insurance Joint Authority (a) under Section 11(3) of the National Insurance Act, 1946(b). *H.M.S.O.* 2d. (Regulations amend one of the provisions of the National Insurance (Unemployment and Sickness Benefit) Regulations, 1948, relating to days of unemployment. They alter the circumstances in which a day cannot be treated as a day of unemployment in the case of persons who are in receipt of compensation for loss of remuneration for that day.) Operative from February 5, 1954.

No. 119. The Linen and Cotton Handkerchief and Household Goods and Linen Piece Goods Wages Council (Great Britain) Wages Regulation Order, 1954. Dated February 2, 1954, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945(a). *H.M.S.O.* 4d. (Sets out the Statutory minimum remuneration payable in substitution for that fixed by Order H.L.42, which is revoked.) Operative from February 17, 1954.

No. 136. The Fur Wages Council (Great Britain) Wages Regulation (Holidays) (Amendment) Order, 1954. Dated February 8, 1954, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945(a). *H.M.S.O.* 3d. (Amends Order Z.61 by increasing the holiday remuneration fixed by that Order for fleshers, shavers and unhairers employed on piece-work.) Operative from March 1, 1954.

No. 137. The Milk Distributive Wages Council (England and Wales) Wages Regulation (Amendments) Order, 1954. Dated February 8, 1954, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Acts, 1945(a). *H.M.S.O.* 3d. (Amends Order M.D.72 by specifying conditions which must be satisfied to entitle a worker to payment for a day of customary holiday on which he is not required to work. Order M.D.70 is revoked.) Operative from February 28, 1954.

No. 163. The National Insurance (Married Women) Amendment Regulations, 1954. Made by the Minister of Pensions and National Insurance. *H.M.S.O.* 4d. (Simplifies certain rules governing the position of married women in National Insurance and alters contributions requirements in respect of sickness and unemployment benefits.) Operative from March 1, 1954.

INDUSTRIAL DISPUTES TRIBUNAL

AWARDS

No. 483. Terms and Conditions of Employment in Regard to Holidays with Pay in Respect of Certain Workers Employed by a Gravel Company at Peterborough. Claim: For the observance of the terms and conditions of employment relating to holidays with pay as laid down in a specified agreement. **Award:** That the recognised terms and conditions of employment in regard to annual holidays with pay shall be observed by the company and that the workers concerned shall receive the additional six days' holiday per annum with pay provided for under the Agreement reached by the National Joint Council for the Ballast Sand Industry on January 23, 1952. (22/1/54.)

No. 484. Rate of Wages of Workers Employed by Certain Wholesale Grocery and Provision Merchants in Scotland. Claim: For revised minimum rates of wages. **Award:** That the minimum rates of wages for warehouse workers shall be as follows: at 16 years of age, 48s. per week for males and 45s. per week for females; at 17, 63s. and 58s.; 18, 80s. and 67s.; 19, 100s. and 76s.; 20, 113s. and 85s.; 21 and over, 126s. and 97s. The minimum rates of wages for other classes of workers concerned are referred back to the parties for settlement by negotiation. (26/1/54.)

No. 485. Holidays with Pay in the Granite Industry in Cornwall and Devon. Claim: Dispute arising from employers' proposal that as from 1954 Good Friday should no longer be regarded as a statutory holiday with pay. **Award:** Claim not established. (27/1/54.)

No. 486. Payment to Outworkers Employed in the Cutlery Industry in Respect of Bank Holidays. Claim: For payment in respect of Bank Holidays in accordance with a recommendation made to their members on December 12, 1946, by the Sheffield Cutlery Manufacturers Association. **Award:** That outworkers shall be paid in respect of Bank or customary holidays on the same basis as inworkers under the provisions of the Cutlery Wages Council (Great Britain) Wages Regulation (Holidays) Order, 1952, namely, "in the case of a piece-worker, for 8 hours at a time rate equal to the piece-work basis applicable to him." (28/1/54.)

No. 487. Salaries of Agents Employed by the Refuge Assurance Co. Ltd. Claim: For an increase of £1 per week in basic salaries. **Award:** Claim not established. (2/2/54.)

No. 488. Terms and Conditions of Employment of Certain Laundry Workers Employed by the Gateshead Corporation. Claim: For the application to the workers concerned of the terms of certain specified decisions. **Award:** Claim not established. (8/2/54.)

No. 489. Wage Rate of Attendants Employed at Reception Centres for Wayfarers throughout Great Britain. Claim: In regard to the grading which should apply to Reception Centre attendants. **Award:** That the attendants concerned shall be paid at a wage 2s. per week above the rate applicable to Group 6 workers, that is, at a plus payment of 3½d. per hour, or 14s. per week, above the basic rate for Group 1 workers. (8/2/54.)

No. 490. Observance of Recognised Terms and Conditions of Employment in Respect of Their Treasurer by the Corporation of the Borough of Richmond, Yorkshire. Claim: Whether the Corporation should observe in respect of their Treasurer the recommendations of the Joint Negotiating Committee for Chief Officers of Local Authorities dated September 12, 1950, as amended on August 11, 1953. **Award:** The Tribunal find that the recognised terms and conditions of employment applicable to the case are those negotiated as above and award that the Corporation shall observe in respect of their Treasurer the terms and conditions of employment as laid down in the aforesaid agreement. (8/12/54.)

No. 491. Grading of a Storekeeper Employed at a Hospital at Dartford. Claim: Concerning the grading of a particular storekeeper at West Hill Hospital, Dartford. **Award:** Claim not established. (9/2/54.)

No. 492. Observance of Recognised Terms and Conditions of Employment in Respect of Their Treasurer by the Stourport-on-Severn Urban District Council. Claim: Whether the Urban District Council should observe in respect of their Treasurer the recommendations of the Joint Negotiating Committee for Chief Officers of Local Authorities dated September 12, 1950. **Award:** That the Council shall observe in respect of their Treasurer the recognised terms and conditions of employment. (11/2/54.)

No. 493. Observance of Recognised Terms and Conditions of Employment by a Firm of Cycle Manufacturers in Glasgow. Claim: Whether the Company should observe the recognised conditions governing holiday credits as laid down in a specified agreement. **Award:** The Tribunal find that the recognised terms and conditions of employment applicable to the case are those governing holiday credits for manual workers employed in the engineering industry as set out in the agreement dated April 3, 1946, as amended on November 29, 1951, between the Confederation of Shipbuilding and Engineering Unions and the Allied Employers National Federation. They further find that the company failed to comply with the recognised terms and conditions of employment in regard to holiday credits and rule that these shall be observed. (12/2/54.)

No. 494. Rates of Wages and Working Week of Tugboatmen Employed on the River Wear. Claim: For an increase in wages and a reduction in the working week to 44 hours. **Award:** That the basic rate of wages for men shall be increased by 8s. per week, with proportionate increases for boys. The Tribunal find that the claim for a reduction in the number of hours of the normal working week has not been established. (15/2/54.)

INDUSTRIAL COURT AWARDS

No. 2495. Fair Wages Resolution. Reference: As to whether in the execution of a contract placed by the Borough of Tamworth, a certain firm of contractors was and is observing the requirements of the Fair Wages Resolution passed by the House of Commons on October 14, 1946. **Award:** (a) That the main contractors could not be held responsible under the Fair Wages Resolution for a breach by the contractor of his obligation to pay the wages provided for in his sub-contract; but (b) the main contractors could be held responsible for the breach by the sub-contractor of his obligation to stamp weekly the holiday cards of his employees. (27/1/54.)

No. 2496. Public Health Service. Reference: To determine a claim for increased rates of pay made on behalf of dental officers employed by local authorities. **Award:** New salary scale instituted on population basis. (9/2/54.)

No. 2497. Road Transport Industry. Reference: Claim by the Trade Union side of the British Road Services for an increase of 10s. on the rates for adults provided for in Clause 2(a) of the Memorandum of Agreement dated November 7, 1950, as amended with effect from September 29, 1952, and for proportionate increases in respect of juniors. **Award:** That the rates for adults provided for in the 1950 Memorandum, as amended with effect from September 29, 1952, shall be increased by 1½d. per hour and the rate for juniors proportionately increased. (12/2/54.)

GENERAL

Civil Service Arbitration Tribunal Award No. 240. Claim: For revision of the overtime rates paid to Foresters and Foremen in the employ of the Forestry Commission. **Award:** Claim not established. (14/1/54.)

Civil Service Arbitration Tribunal Award No. 242. Claim: For a revision in the London area scale of pay for full-time Postmen, higher grade. **Award:** The Tribunal rule that the following scale in respect of full-time permanent postmen shall be observed: At 21 years of age, 131s. 6d.; 22, 135s.; 23, 139s. 6d.; 24 and over, 153s.; thence by annual increments to 185s. (19/2/54.)

Civil Service Arbitration Tribunal Award No. 245. Claim: For revision in the London salary scale of Watchers employed in H.M. Customs and Excise. **Award:** (a) That the weekly salary scale of the Watchers concerned shall be 125s., rising by increments of 3s. 6d. to 146s.; (b) that normal Civil Service three-tier provincial differentiation shall apply; and (c) that the "corresponding points" principle shall be applied in the assimilation to the new scale of officers in post. (20/2/54.)

Maintenance of Automatic Telephone Exchanges. Productivity Team Report issued by the Anglo-American Council on Productivity, price 5s. 6d.

Monopolies and Restrictive Practices Acts, 1948 and 1953. Fifth Annual Report of the Board of Trade. *H.M.S.O.* 6d.

National Service Acts, 1948-50. Selected decisions of the umpire during December, 1953, in respect of applications for postponement of liability to be called up for service under the above Acts. Issued by the Ministry of Labour and National Service. *H.M.S.O.* 2d.

Report of a Court of Inquiry into a Dispute between employers who are members of the Shipbuilding Employers Federation and workmen who are members of Trade Unions affiliated to the Confederation of Shipbuilding and Engineering Unions. *H.M.S.O.* 1s. 6d. Issued by the Ministry of Labour and National Service. (19/2/54.)

April Diary for Management

BACIE
April
9-11 **Oxford, Brasenose College.** Annual Week-end Conference of London and Home Counties Group of BACIE. "Work of the Youth Employment Service."
12-14 **London.** Three-day Course for Graduates and Technologists on "Writing Technical Reports." BACIE Communication Training Centre.
30 May 2 **Buxton.** Week-end Course for Supervisors on "Communicating Information." BACIE Communication Training Centre.

BRITISH INSTITUTE OF MANAGEMENT
2-3 **Southport.** North-Western Management Conference on "Management Problems." Held in association with regional organisations of Federation of British Industries, National Union of Manufacturers and Institute of Industrial Administration.

BURTON MANOR
4-9 "Effective Speaking." (Course No. 487.)
4-15 Course No. 488 on "The Nature of Management." Designed for Middle Grade of Management.
12-15 Course for Education and Training Officers in Industry. (Course No. 489.)

INDUSTRIAL WELFARE SOCIETY
6 **Manchester.** One-day Canteen Course.
7 **London.** Sir Compton Mackenzie on "Industrialisation and Culture."
3-8 **London.** Afternoon meeting on "Industrial Relations in Germany."
13 **Sheffield.** Half-day Meeting in "Trends in Industrial Management Over the Next Ten Years."
23-26 **Leicester.** Week-end Conference for Canteen Cooks on "Food and its Preparation."
26-May 7 **London.** European Executive Course.

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- BCG VACCINATION
- VILLAGE SETTLEMENTS

NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS
Tavistock House North
Tavistock Square, London, W.C.1

28 **Birmingham.** Half-day Meeting on "Trends in Industrial Management Over the Next Ten Years."
29 **Wolverhampton.** Half-day Meeting. "Trends in Industrial Management Over the Next Ten Years."

INSTITUTE OF INDUSTRIAL SUPERVISORS
2-4 **Wansfell, Epping.** Week-end Residential Course on "The Practice of Supervisory Management."
30-May 2 **Missenden Abbey, Bucks.** Week-end Residential Course on "Industrial Relations, Industrial Law—What the Supervisor Should Know."

INSTITUTE OF INDUSTRIAL TECHNICIANS
7 **Manchester.** Annual General Meeting.
15 **Birmingham.** Annual General Meeting.

INSTITUTE OF PERSONNEL MANAGEMENT
1 **London,** Connaught Rooms, Great Queen Street. One-day Discussion Meeting on "National Wage Negotiations."
2 **Stoke-on-Trent.** Midland Region Conference.
5 **Coventry.** "Personnel Management in a Nationalised Industry."
13 **London.** Joint Meeting with Staff Management Association.
24 **Sheffield.** One-day Conference on "Industry and International Affairs."
26 **Leicester.** "Difficult Personnel."
27 **Manchester.** "The Functions and Background of the Engineering Employers' Association."

ROFFEY PARK
5-9 Five-day course on "Human Relations in Industry."
20-24 Course for Crompton Parkinson Supervisors.
25-30 Joint Course for Training Officers (IPM, IWS, NHP, BACIE.)

SOCIETY OF INDUSTRIAL ENGINEERS
9-11 **Roffey Park, Horsham.** Week-end Conference on "Work Study and Planning Applied to Plant Maintenance."

URCHFONT MANOR
9-11 Week-end Course on Industrial Efficiency.
15-21 "The Achievement of Psychology." Reference will be made to the application of psychology in medicine education and industry.
26-May 6 "The Human Factor in Industry." Course for foremen, chargehands and shop stewards in industry.

ISSUED recently by the Gas Council, *A Career in the Gas Industry* emphasises the wide range of openings available, the opportunities for promotion, and the progressive policy of the industry, which offers a satisfying career to those who enter it.

There are more than 140,000 people employed by the Gas Industry, and the booklet outlines the various pupilage schemes available both for university graduates and for those leaving secondary or public schools. Advice is given to those with an interest in gas engineering, in a scientific career or in accountancy, the commercial side, or general administration.

On January 4, 1954, there were 1,206 persons undergoing courses at Industrial Rehabilitation Units run by the Ministry of Labour and National Service. In addition, sixty persons were taking courses at special establishments for the rehabilitation of blind persons at Torquay and at Ceres, Fife.

PEOPLE

(*Continued from page* 481)

Mr. H. Douglass, general secretary of the Iron and Steel Trades Confederation, has been appointed a member of the Board of Trade Committee set up in May, 1953 to make recommendations about future policy in regard to the taking of censuses of production and distribution. He replaces Mr. W. L. Heywood, O.B.E., who has resigned.

Mr. K. M. Jones, of Porthcawl, Glamorganshire, has been appointed education and training officer of Hoover Ltd., and will be in charge of the engineering apprentice training school, at the company's Perivale (Middlesex) headquarters. Mr. Jones took a degree in chemistry at the Imperial College, London, and, after the war, studied personnel management. More recently he was in Edinburgh as a science master.

Mr. J. F. MacGillivray has been appointed group personnel manager to the British Tyre and Rubber Co. Ltd., and its subsidiaries. Mr. MacGillivray studied personnel management at the London School of Economics and has held appointments as personnel manager with Hoover Electric Motors Ltd., Cambuslang, near Glasgow and with Yardley and Co.

Mr. W. H. Tuckey, the first director of the fire Protection Association, retired on March 31. He was appointed to the Association in December, 1946. Mr. N. C. Strother Smith, M.A., who joined the staff of the Association as assistant director in 1952, has been appointed to succeed Mr. Tuckey.

A FLOURISHING SOCIETY

THIS year sees the bi-centenary of "England's Fairy Godmother," as E. V. Lucas described the Royal Society of Arts. The declared aim of this essentially English Society is "the Encouragement of Arts, Manufactures and Commerce," and there is little that cannot be included within its range. Few citizens realise what they owe to its public-spirited and pioneering endeavours in so many fields throughout 200 years.

Under the presidency of the Duke of Edinburgh the Society—with its headquarters still in the famous house built for it by Robert Adam—continues to flourish and now has more members than ever before.

Obituary

Mr. Sidney L. Harford, honorary general secretary of the Institute of Civil Defence, on February 12 after a long illness. The secretariat has been re-organised and it is requested that all communications now be addressed impersonally to the Institute of Civil Defence, 86 Eccleston Square, London, S.W.1.

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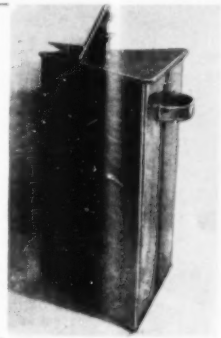

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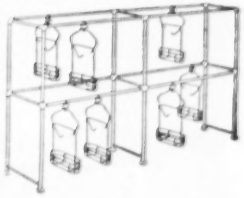

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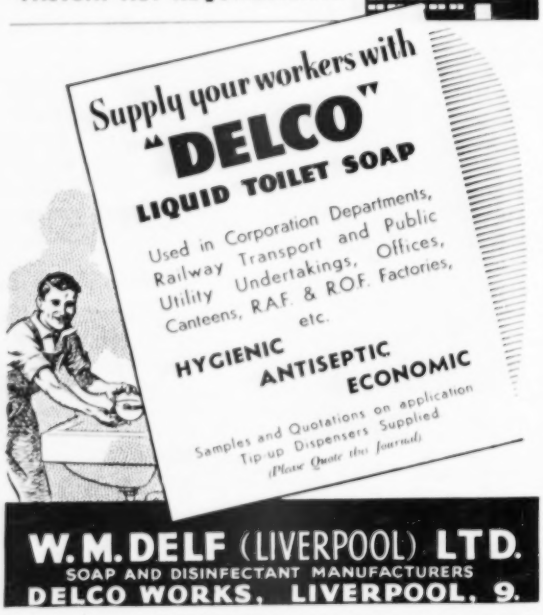
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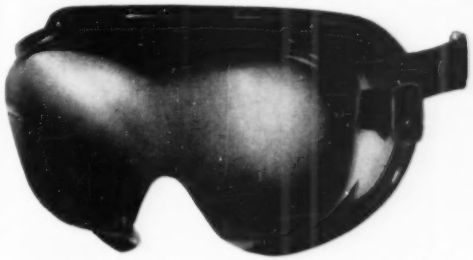

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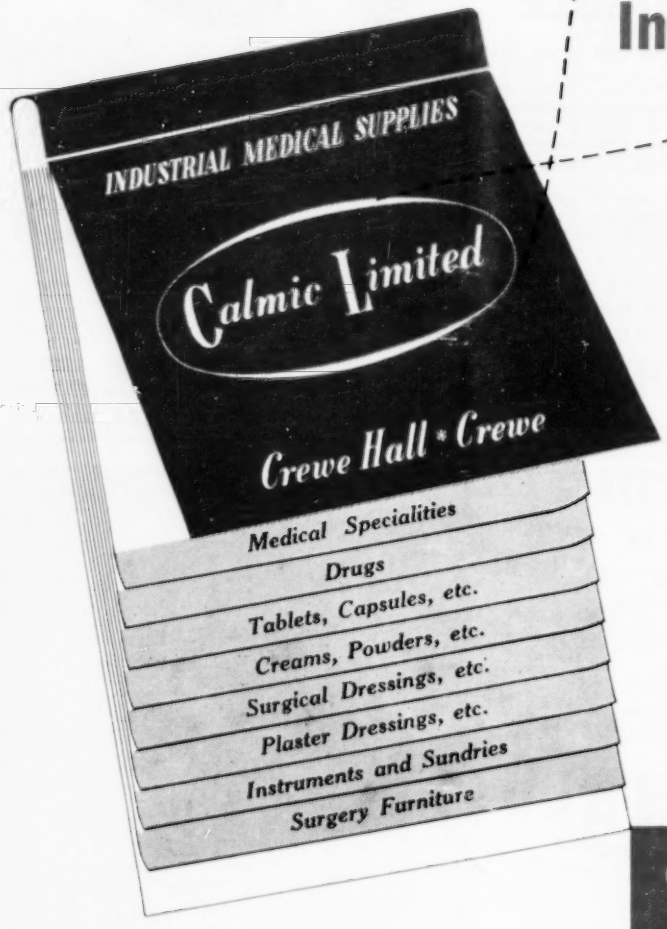

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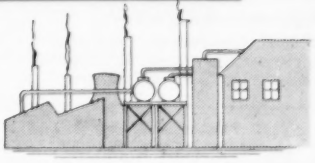

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